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AUSTRALIAN HYMENOPTERA CHALCIDOIDEA—VII.*

The Family Encyrtidæ with Descriptions of New Genera and Species.

By A. A. Girault.

INTRODUCTION.

This great group, in the Australian fauna, is very nearly as numerous in species as the Eulophidæ. Five distinct subfamilies are recognised—the Encyrtinæ, the Eupelminæ, the Signiphorinæ, the Taneostigminæ and the Aphelininæ. The latter group in recent years has been placed with the Eulophidæ, untenably so.

From a distance, this is the most unlikable family in the chalcidoid series but close acquaintance reveals so many fascinating qualities that students, after some experience, will no doubt choose it as a favorite. The remarkable diversity in structure, the wonderful color patterns, the unique and odd special structural enormities, the great structural likeness of the members of a genus, the jumping habit, the present uncertainty regarding relationships, the whole diverse and varied panorama is such that the most torpid of interests must finally become conscious of a spell.

The family was to me a "black beast." It had been left until last and finally attacked with the determination born of despair. This was due mainly to my inability to place species in their proper genera and I must confess that for the first three months during which species in this group were steadily described hardly one was placed into its proper genus. My interpretation of a genus became gradually clearer as experience increased and Ashmead's (1904) tables of the Encyrtinæ, formerly thrown aside as worthless, are now accepted in the main as good. The generic differences are smaller than I had thought. Such characters, however, as pubescence, sculpture and wing pattern must be ignored as regards genera.

The genus *Eupelmus* is large. Ashmead's table of the Eupelminæ must be condemned; it is based, in this instance, upon too trifling characters—pubescence on the eyes and the incisions of the caudal margins of the abdominal segments are highly variable characters; some of the language used is misleading; a number of the genera must fall as synonyms.

In some of the encyrtine genera, it is extraordinary that two species may occur which are alike in every detail except for some structural characteristic easily overlooked; for example *Baoanusia magniclava* and *B. persimilis*; in the latter, the axillæ are a little separated while in the former they are joined and with the usual carina between them.

The family is open to philosophical treatment of the highest order.

Subfamily EUPELMINÆ.

Many of the genera in this group have been founded upon two variable characters and Ashmead's table of genera, as stated before, is very poor. It is surprising that the antennæ have not been used more for principal divisions. Some of the genera, apparently, do not possess these organs for all we know to the contrary.

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* Contribution No. 30, Entomological Laboratory, Bureau of Sugar Experiment Stations, Bundaberg, Queensland.

GENUS EUPELMUS Dalman.

Where ring-joint is mentioned funicle 1 is intended, this joint often ring-like. The species may have one or two spurs on the caudal tibiæ. The axillæ are separated yet rather close together.

1. EUPELMUS VARICOLOR (Girault). Genotype of *Episolindelia* Girault.

Length, 2.10 mm., excluding extruded part of ovipositor which is two thirds or more the length of the abdomen.

Bright metallic green, the conic-ovate abdomen golden yellowish and with a metallic green dorso-lateral stripe down each side for proximal two thirds, its dorsal base also somewhat metallic. Antennæ black, the ring-joint and tip of pedicel whitish, the third funicle joint longest, subequal in length to the pedicel. Legs lemon yellow, the coxæ black except at tip, the intermediate tibiæ ringed with black a short distance below the knees, the intermediate femora with a black spot above on one side, the same distance before the knees. Wings hyaline. Ovipositor valves white, broadly black at base, narrowly brown at tip, the brown tip about half the length of the black proximal portion. A yellow stripe down each side of the thorax, broader cephalad. Head and thorax polygonally reticulated. Scape black. Ring-joint somewhat wider than long; funicle 1 somewhat longer than wide, 3 longest of the funicle. Hind tibial spur single. Mandibles tridentate. Front femur stout. Type re-examined.

Described from one female captured by sweeping miscellaneous vegetation in forest, December 5, 1912 (A. P. Dodd).

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 2826*, Queensland Museum, Brisbane, the specimen on a card point plus a slide bearing an antenna and one of each pair of legs.

2. EUPELMUS VULGARELLUS new name.

Idoleupelmus vulgaris Girault, 1913, p. 94.

Eupelmus vulgaris (Girault), preoccupied.

Female:—Length, 4.50 mm., excluding the extruded portion of the ovipositor which is as long as the abdomen and yellowish white except broadly at base and tip.

Bright æneous green, the wings hyaline, the legs and tegulæ lemon yellow (except the coxæ, a dusky brownish spot above before apex on hind femur, one just below knee and another just ventrad of the first and a spot on same place on middle femur, a ring around middle tibia just out from the knee). Sides and venter of abdomen yellow. Head and thorax very finely shagreened. Antennæ 13-jointed, no ring-joint, the club 3-jointed; pedicel rimmed with whitish at apex, the first funicle joint similarly rimmed at base. Postmarginal vein longer than the stigmal. Prepectus golden yellow.

Habitat: Gordonvale (Cairns), Queensland. Forest, May 3, 1913.

Type: No. *Hy 2827*, Queensland Museum, Brisbane, the female on a tag, the head and hind legs on a slide.

3. EUPELMUS AUSTRALIENSIS (Girault). Female.

Idoleupelmus australiensis Girault, 1913, pp. 94-95.

Length, 1.20 mm. Same as *vulgaris* but much smaller and the valves of the ovipositor are wholly black, the hind legs lack the black spots.

Antennæ 13-jointed, inserted just below the ventral ends of the eyes, the first funicle joint minute, white, not a true ring-joint, 2 twice longer, 3 still longer, quadrate, the following joints longer, all much shorter than the pedicel. Mandibles tridentate. Middle tibiæ without black teeth, with scattered light ones. Abdomen mostly yellowish above.

Habitat: Gordonvale (Cairns), Queensland. Forest, April 4, 1913.

Type: No. *Hy 2828*, Queensland Museum, Brisbane, two females on separate tags.

4. EUPELMUS GROTII new species. Female; male.

Length, 3.20 mm., excluding extruded ovipositor which is white and not quite as long as the abdomen.

Metallic æneous green, the abdomen, axillæ and scutellum burnished purplish coppery. Legs concolorous except the articulations and the tips of tibiæ which are yellowish brown, the tarsi whitish. Fore wings with a narrow, rather indistinct brownish line across it at base of marginal vein, more obscure centrally. Ovipositor valves black at base. Scape metallic green; rest of antenna black. Hind tibia with only one spur. Antennæ 13-jointed with one quadrate ring-joint; funicle 1 longest, subequal to pedicel, over twice the length of the ring-joint, the distal funicle joint plainly wider than long.

Male:—The same but the wings hyaline, the antennæ and legs yellow, the hind femur within with a midlongitudinal, elliptical fuscous marking. The distal funicle joint is only slightly longer than wide, the antennæ 10-jointed excluding the club, the ring-joint present. The abdomen as in *Anastatus*.

Habitat: Port Darwin, Northern Territory. Parasitic upon the eggs of mantids in forest.

Types: No. *Hy 2829,* Queensland Museum, Brisbane, one male, four females on tags (two pins).

Dedicated to Hugo Grotius.

5. EUPELMUS ANTIPODA Ashmead. Female.

Length, 3 mm. Head metallic green, thorax bottle blue, mesopleura with a greenish tinge; abdomen æneous black; ovipositor prominent, yellow for two thirds its length; wings fuscous except at proximal third which is hyaline; all coxæ metallic green; sutures of trochanters, tips of tibiæ and tarsi yellowish white; rest of legs æneous black.

Habitat: Sydney, New South Wales. Mantid eggs.

Type: Catalogue *No. 4894,* United States National Museum, Washington, D.C., U.S.A.

Cameron (1911, pp. 651-652) gives Sydney and Darrigo, New South Wales, September. And also "This appears to be a variable species as regards colouration: Some specimens have more of the green tint than others; the blue merges into violaceous, and there may be brassy tints. The male is green with brassy tints, and, on the metanotum, the green merges into violaceous, the antennal scape and four front legs are yellow tinged with fulvous, especially on the femora; the hind legs are coloured as in the female, except that the femora are green for the greater part; and the tibiæ are not so deeply black, while their base may be testaceous. The color of the wings varies, some having the fuscous tint on the apical two-thirds much lighter than the others; in the males they may be almost hyaline."

Which part of the ovipositor is yellow?

6. EUPELMUS TESTACEIVENTRIS Cameron. Female.

Length, 2 mm.; length of terebra 5 mm. (?)

Blue with brassy tints on the base and sides of mesonotum; scape dark green, flagellum black; third and following segments of abdomen dorsad and all ventrad yellowish testaceous; sides of third segment blue, base of 1 yellow, ventral keel black; extruded part of ovipositor about half the length of the abdomen, its proximal third black, the rest yellow; legs pale straw yellow; coxæ blue to near apex; apex of tarsi black. Wings hyaline, the venation straw yellow.

Face finely, closely aciculated; malar suture distinct, curved. Palpi pale testaceous; scutum closely, finely, almost transversely striated, the middle lobe clearly separated, longer than wide at base, the apex broadly rounded, the lateral lobes with a distinct transverse furrow

at base, the middle one surrounded by a wide furrow which is widest at the apex where it is transverse. Scutellum pyriform, roundly narrowed to a blunt point cephalad. An irregular black spot near apex of middle femur, a more distinct line or band near base of middle tibiæ and a broad black line on either side of the basal half of hind femur; hind tibiæ infuscated at base. Allied with *Eupelmus antipoda* Ashmead.

Habitat: Boggabri, New South Wales. Associated with the fruit of grasses. January.

Types: Query.

7. EUPELMUS BURMEISTERI new species.

Female:—Length, 1.65 mm., excluding the ovipositor which is extruded for a third the length of the abdomen.

Dark metallic green, the first funicle joint white, the wings hyaline; not quite distal two thirds of extruded valves of ovipositor soiled white. Thorax and abdomen finely scaly. Funicle 2 a little wider than long, 4 longest yet scarcely longer than wide. Antennæ and coxæ concolorous. Legs golden yellow; middle femur with a dusky band just proximad of knee; middle tibia with one just distad of knee (both separated from the knee, however). First femur centrally washed with metallic green. Axillæ not approximate yet not much separated. No conspicuous pubescence on thorax. Teeth on middle tarsi not black. Hind tibial spur single. First femur simple. Postmarginal vein longer than the stigmal. Hind femur proximad submetallic. Ovipositor valves slightly black at tip.

Described from two females on slides in the collections of the Queensland Museum, Brisbane, labelled "Among grass and herbage, March 29, April 8, 1913. H. Hacker."

Habitat: Brisbane, Queensland. Forest.

Types: No. *Hy 2830*, Queensland Museum, Brisbane, a female on a slide.

Dedicated to Hermann Burmeister.

8. EUPELMUS RENANI new species.

Female:—Length, 1 mm., excluding extruded portion of ovipositor which is only one third the length of the abdomen.

Agrees with the description of *Anastatus pax* (Girault) but much smaller and funicle 2 is short, smaller than the pedicel, about a third of its length, the pedicel much longer than any of the funicle joints of which 4 is largest, a little longer than wide. Moreover, the color is dark metallic green, the extruded valves of ovipositor, the antennæ and legs concolorous. Body finely scaly. Axillæ distinctly separated, but not much. Fore wing lightly infuscated to apex from about the middle of the marginal vein.

From one female caught by sweeping *Leptospermum*, April 16, 1913 (H. Hacker).

Habitat: Brisbane, Queensland.

Type: No. *Hy 2831*, Queensland Museum, Brisbane, the body (minus wings) on a tag, the head on a slide.

Dedicated to Ernest Renan.

9. EUPELMUS MONTAIGNEI new species.

Female:—Length, 1.50 mm., exclusive of ovipositor whose extruded portion is a third the length of the abdomen.

Similar to *masini* but the antennæ wholly concolorous, the intermediate femur and tibia immaculate, the first femur only very lightly washed with metallic, the legs pale lemon yellow except coxæ and lightly, cephalic femur. Postmarginal and stigmal veins shorter, subequal. Distal fourth of ovipositor distinctly black, longer than the black proximal portion. Mesopleurum suffused with brownish. Body finely scaly. Teeth on middle tarsi black.

From one female caught by sweeping in forest, January 6, 1914.

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 2832*, Queensland Museum, Brisbane, the specimen on a tag.

Respectfully dedicated to the French essayist.

10. EUPELMUS PUDICUS new species.

Female:—Length, 1.25 mm. exclusive of ovipositor.

Like the preceding but funicle 1 white, proximal half of scape also; femora, tibiæ and tarsi lemon yellow; proximal fourth of ovipositor white, rest black, the extruded portion somewhat shorter. Funicle 4 plainly longer than wide yet not much more so. Postmarginal and stigmal veins not seen. Pedicel a little longer than funicle 4, not elongate.

From one female taken by sweeping forest, April 10, 1913.

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 2833*, Queensland Museum, Brisbane, the female on a tag; head and hind leg on a slide.

11. EUPELMUS COMPRESSICAUDA new species.

Female:—Length, 2.10 mm., exclusive of extruded portion of ovipositor which is as long as the slender abdomen.

Long and slender, the abdomen acuminate and longer than the rest of the body, the exserted portion of ovipositor black,* the valves compressed, their tips silvery white. Wings hyaline. Dark metallic blue, the knees, distal third or more of tibiæ and the tarsi pale straw yellow. Teeth of middle tarsi colored like the tarsi. Hind tibial spur single. Scape subcompressed; funicle 1 distinctly longer than wide, longer than 8 which is quadrate, shorter than the pedicel, the latter only slightly longer than funicle 2 which is longest, somewhat over twice longer than wide; 3 somewhat shorter than 2; 4 still shorter yet somewhat longer than 1. Mandibles tridentate. Thorax and abdomen finely scaly; segments 2 and 3 of abdomen deeply incised at meson of caudal margin, the next three segments much less so, 2 and 3 rather long. Postmarginal vein longer than the stigmal. Scutellum rather narrow, declivous, the axillæ slightly separated inwardly, their meso-caudal sutures very faint, the axillæ barely defined.

From one female caught by sweeping in jungle, April 16, 1913 (A. P. Dodd).

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 2834*, Queensland Museum, Brisbane, the female on a tag, the head and a fore and hind leg on a slide.

12. EUPELMUS FIELDINGI new species.

Female:—Length, 1.80 mm., exclusive of ovipositor which is extruded for a length equal to two thirds that of the abdomen.

Like the preceding but dark metallic green, the abdomen normal, the normal valves of ovipositor not so long and the middle tibia is wholly pale yellow; also funicle 1 is wider than long, the body is much shorter. Hind tibial spur single. Scape very slightly flattened; pedicel a little longer than funicle 2 which is longest, 3 slightly shorter than 2, 8 quadrate. Postmarginal vein short, a little longer than the stigmal. Axillæ separated but not very widely. At least segments 2-4 of abdomen incised at meson of caudal margin. Whole body densely scaly. Axillæ well defined, the scutellum not declivous.

From one female taken by sweeping in forest, November 13, 1912.

Habitat: Proserpine, Queensland.

Type: No. *Hy 2835*, Queensland Museum, Brisbane, the female on a tag; antenna and hind tibia on a slide.

Dedicated to Henry Fielding.

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* Meaning the valves; the color of the ovipositor itself is always brown.

13. EUPELMUS LAVOIRSIERI new species. Female.

Like *grayi* but the middle white part of the valves of the ovipositor is smaller, distinctly shorter than the proximal black part which is only slightly shorter than the distal black portion (in *grayi* the middle white is distinctly longer than the proximal black). Funicle 1 is a little wider than long. The first two or three segments of abdomen, at least, incised at meson of caudal margin.

From one female caught in forest, November 3, 1912.

Habitat: Proserpine, Queensland.

Type: No. *Hy 2836*, Queensland Museum, Brisbane, the female on a tag, an antenna and hind tibia on a slide.

14. EUPELMUS LONGICORPUS new species.

Female:—Length, 3.50 mm. Shaped like *motschulskini* Girault.

Dark metallic green, the wings hyaline, the coxæ and sides of cephalic femur laterad (exteriorly) concolorous; rest of legs yellowish brown. Ovipositor distinctly but shortly exserted (a sixth or less the length of the abdomen), a little over proximal half of the exserted part white, rest concolorous. Postmarginal vein only slightly longer than the stigmal. Funicle 1 a little wider than long, 2 much longer, over thrice longer than wide, a little the longest, 3 and 4 somewhat shorter than it, longer than the pedicel which is subequal to 6. Hind tibial spur single. Vertex broad. Axillæ just separated at meson. Sculpture as in the scutum of *worcesteri*, the pronotum, abdomen and head scaly punctate like the scutum. Segments 2-6* incised at meson, the incisions lessening in succession caudad. Ridges of scutum pubescent.

From one female taken in forest, March 21, 1913.

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 2837*, Queensland Museum, Brisbane, the female on a tag; antenna and a hind leg on a slide.

A second female, same place on April 4.

15. EUPELMUS AUSTRALIS new species.

Female:—Length, 2 mm., exclusive of ovipositor which is extruded to a length equal to that of the abdomen.

Similar to *australiensis* but much more robust and only the side of the abdomen centrally is golden yellow. Also funicle 1 is a little wider than long, 2 quadrate, 3 somewhat longer than wide. Prepectus golden yellow. Legs except coxæ bright golden yellow, the two spots on middle legs distinct.

From one female caught in forest, April 20, 1913.

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 2838*, Queensland Museum, Brisbane, the female on a tag.

16. EUPELMUS GREELYI new species.

Female:—Length, 2.10 mm., excluding ovipositor which is extruded for a length a little exceeding that of the body.

Colored like *varicolor* Girault but the marginal stripe of abdomen is somewhat longer, the legs are all pale yellow except the concolorous coxæ. Middle tibiæ, however, with a more or less obscure metallic dot just below knees, outwardly, the middle femur with one just above knees. Extruded valves of ovipositor black, whitish rather obscurely on second fourth.

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* Of abdomen.

Prepectus yellowish white. Axillæ a little separated. Thorax scaly. Postmarginal vein somewhat longer than the stigmal, both well developed. Funicle 1 white, quadrate, 2-4 longest, each a little shorter than the pedicel, distinctly longer than wide; funicle 8 a little longer than wide.

From one female caught by sweeping along a jungle path, February 23, 1912.

Habitat: Rossville (Cooktown), Queensland.

Type: No. *Hy 2839*, Queensland Museum, Brisbane, the female on a tag; head on a slide.

Dedicated to A. W. Greely.

17. EUPELMUS LAMBI new species.

Female:—Length, 1.15 mm., the ovipositor barely exserted.

Like *mawsoni* but middles of femora and tibiæ laterad darker except cephalic femur; funicle 1 wider than long, 2 quadrate, plainly not twice longer than wide, subequal to 3, 4 longer than any of the others, a little longer than wide; rest of funicle joints wider than long but 5 somewhat longer than the following. Postmarginal and stigmal veins slender, the former a little the longer. Axillæ distinctly but not very widely separated. Pubescence short, spare, the whole body scaly. Hind tibial spur single. Hind femur all metallic laterad except ends.

From one female caught in forest, December 25, 1912.

Habitat: Capeville (Pentland), Queensland.

Type: No. *Hy 2840*, Queensland Museum, Brisbane, the specimen on a tag; head and a hind tibia on a slide.

Dedicated to Charles Lamb.

A second female, same place, September 5, 1914 and a third the following day.

18. EUPELMUS CRAWFORDI new species.

Female:—Length, 1.35 mm., excluding the extruded portion of ovipositor which is as long as a third of the abdomen.

Brown washed with metallic purple, the abdomen honey yellow, the wings hyaline; extruded portion of ovipositor white, black at base, brown at distal fourth, this part longer than the black basal part, the white portion forming over half. Scape and legs pale, the coxæ and femora washed with brownish, rest of antenna brown-black. Ring-joint a little wider than long, the pedicel much longer than any of the funicle joints of which 2 and 3 are longest, subequal, each somewhat longer than wide; funicle 1 one and a half times longer than the ring-joint; distal funicle joint somewhat wider than long. Head and thorax finely scaly reticulate. Axillæ distinctly, moderately, widely separated, the scutellum declivous. Hind tibial spur single. Front femur simple. Postmarginal and stigmal veins subequal, distinctly much shorter than the marginal. Middle tibiæ with black teeth.

From one female caught by sweeping jungle along a forest streamlet, December 2, 1912 (A. P. Dodd).

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 2841*, Queensland Museum, Brisbane, the female on a tag; head and middle legs on a slide.

Respectfully named for J. C. Crawford for his careful work on Chalcidoid Hymenoptera.

19. EUPELMUS FOLSOMI new species.

Female:—Length, 1.75 mm.

Like *varicolor* Girault but the marginal stripe of abdomen reaches only to middle (sometimes farther), the coxæ nearly all black, the yellow absent on side of thorax, the abdomen not colored at base above and the front femur centrally is broadly concolorous with the body. Postmarginal vein somewhat longer than the stigmal.

From one female caught by sweeping *Leptospermum*, April 16, 1913 (H. Hacker).

Habitat: Brisbane, Queensland.

Type: No. *Hy 2842*, Queensland Museum, Brisbane, the specimen on a slide.

Another female by sweeping *Eucalyptus*, April 16, 1913, same place.

Named for Justus Watson Folsom.

20. EUPELMUS BAILEYI new species.

Female:—Length, 1.87 mm. The same as *folsomi* but the ovipositor a fourth shorter, the marginal stripe of abdomen extending to the anal spiracle or nearly to apex and the proximal half of hind femur is concolorous, the hind knee above is so and a small spot just distad of it on tibia. Also, the spot on middle femur is more elongate than usual; the front tibiæ also have a dusky ring around them just ventrad of knee.

From one female caught by sweeping *Eucalyptus*, April 16, 1913 (H. Hacker).

Habitat: Brisbane, Queensland.

Type: No. *Hy 2843*, Queensland Museum, Brisbane, the female on a slide with a female of *folsomi*.

Named for F. Manson Bailey.

21. EUPELMUS AUSTRALICUS new species.

Female:—Length, 2 mm., excluding exserted portion of ovipositor which is four fifths the length of abdomen and wholly black.

Like *varicolor* Girault but the marginal stripe extends for a little over proximal three fourths, the ovipositor is black, the base of the abdomen lacks metallic coloration to any extent and the sides of the thorax any yellow. The coxæ are wholly concolorous.

From two females caught sweeping undergrowth, mostly *Eucalyptus*, April 16, 1913 (H. Hacker).

Habitat: Brisbane, Queensland.

Types: No. *Hy 2844*, Queensland Museum, Brisbane, two females on a slide.

Also one female was caught on Magnetic Island, off Townsville, Queensland, January 9, 1913 (A.A.G.).

22. EUPELMUS WORCESTERI new species.

Female:—Length, 4.50 mm.

Similar to *motschulskini* but the wings are hyaline, the scape slenderer, the postmarginal vein shorter, the hind tibia concolorous except at tip, body dark metallic green, the scutellum not declivous, the ridges of the scutum less carinated, the axillæ very widely separated, the vertex broad between the eyes, the ovipositor not at all exserted, its tip black, funicles 3 and 4 are longest, 2 a little shorter than either of them, 3 somewhat shorter than the pedicel, 1 distinctly longer than wide, over half the length of 2. Hind tibiæ with one spur (another one seems present but though a little stouter it is no longer than the apical fringes [setæ] of tibiæ and several similar ones occur among those on the opposite side of the spur). Hind margin of segment 2 of abdomen incised but the cut is not deep along the meson like a slit; the next three segments are less and less incised caudad. Scutum and scutellum densely scaly punctate. Rest of body densely scaly. Axillæ small.

From one female caught by sweeping in forest pocket, September 12, 1913 (A. P. Dodd).

Habitat: Kuranda, Queensland.

Type: No. *Hy 2845*, Queensland Museum, Brisbane, the specimen on a tag; antenna and a hind leg on a slide.

A second female at Gordonvale, forest, 2,000 feet, June 3 (A. P. Dodd).

23. EUPELMUS MOTSCHULSKINI new species.

Female:—Length, 4.30 mm. Long and slender. Valves of ovipositor extruded a short distance, distal half whitish.

Dark metallic purple, the antennæ and legs concolorous except the brownish tarsi and tips of all tibiæ; but hind tibiæ at a little over proximal half silvery white. Middle tibiæ with black teeth. Hind tibial spurs double. Scape compressed, the pedicel long but a little shorter than funicle 2 which is longest; pedicel subequal to funicles 3 and 4; funicle 1 small, quadrate, somewhat less than a third the length of 2. Funicle 8 a little wider than long, much longer than 1, not quite half the length of 2. Fore wing infuscated slightly at extreme base and from the bend of the submarginal vein out distad of venation but there are two more or less distinct cross-bands formed by accentuations, one (more obscure) at proximal margin of the infuscation and one in the form of a rectangle from the postmarginal vein and not reaching caudad of the middle of the blade. A clear streak across the middle of the infuscation but obscure. Vertex narrow between the eyes. Scutum pilose. Segments 2-5 of abdomen incised at meson of caudal margin, the abdomen longer than the rest of the body, the incision of segment 2 very deep, of 4 shallow, concave. Abdomen densely scaly, segment 7 longest, somewhat longer than 2. Head and thorax alutaceous. Scutellum declivous. Ridges of scutum carinated.

From one female taken in forest, March 12, 1912.

Habitat: Thursday Island, Torres Strait.

Type: No. *Hy 2846*, Queensland Museum, Brisbane, the specimen on a tag; head and hind leg on a slide.

24. EUPELMUS GRAYI new species.

Female:—Length, 1.50 mm., excluding extruded portion of ovipositor which is a third the length of the abdomen.

Dark metallic blue, the wings hyaline, the knees, middle tibiæ, tips of other tibiæ broadly and the tarsi yellowish white. Teeth on middle tarsi black, middle of valves of ovipositor white, the distal black portion subequal to the white and longer than the proximal black portion. Antennæ wholly concolorous; funicle 1 quadrate, 2 twice longer than 1, distinctly longer than wide, 3 and 4 longest, each slightly longer than 2, a little shorter than the pedicel; distal funicle joint quadrate but larger than 1. Hind tibiæ with but one spur. Front femur not swollen. Postmarginal and stigmal veins short, subequal. Body (wholly) rather coarsely scaly.

From one female captured in forest, January 4, 1914 (A. P. Dodd).

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 2847*, Queensland Museum, Brisbane, the specimen on a tag; head on a slide.

Dedicated to Asa Gray.

25. EUPELMUS MAWSONI new species.

Female:—Length, 2.25 mm.; the ovipositor not extruded.

Dark metallic green, the wings hyaline, the legs golden yellow (except coxæ), obscurely yet distinctly washed with submetallic on the femora and tibiæ (except cephalic tibiæ). Antennæ concolorous; scape compressed; pedicel elongate, longer than any of the funicle joints of which 3 and 4 are longest, 1 a little longer than wide, 2 a little shorter than 3, about twice its own width. Distal two funicle joints plainly wider than long. Middle tibiæ with black teeth; hind tibiæ with one spur. Very finely scaly, the abdomen coarser. Mesopleurum naked. Segment 2 of abdomen deeply incised at meson caudad. Pubescence sparse, white; most of middle tibia except just below knee lemon yellow. Postmarginal vein

distinctly longer than the stigmal, the venation pale, the stigmal vein moderately long; blade of fore wing densely, finely ciliate.

From one female captured in forest, January 4, 1914 (A. P. Dodd).

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 2848*, Queensland Museum, Brisbane, the specimen on a tag; head and hind leg on a slide.

Dedicated to Sir Douglas Mawson.

26. EUPELMUS MULTICOLOR new species.

Female: Length, 2.70 mm., excluding extruded portion of ovipositor which is three fourths the length of the abdomen. Abdomen intermediate between *Eupelmus* and *Anastatus* but more like the former.

Metallic purple green, the fore wing deeply embrowned from the bend of the submarginal vein distad to apex but distinctly clearer some distance proximad of the apex; pronotum, except lateral margins, scape, legs, ventral face, caudal three fourths of mesopleurum, a line down latero-dorsal aspect of thorax above the tegula, axillæ and cephalic two thirds of scutellum rich reddish brown. Fore wings infuscated above immediate base. Proximal two thirds of distal half of ovipositor white, distal third of the half black, proximal half dusky. Proximal third of abdomen silvery white; also tarsi of middle legs (except the distal black joint) and proximal portion of the proximal joint of each of the other tarsi. Front and hind femora and tibiæ rather strongly compressed, the middle tibiæ with the comblike teeth white. Hind tibiæ with one spur. Pedicel somewhat longer than funicle 4 which is longest, 1 a little longer than wide, 7 and 8 quadrate, two thirds the length of 4, longer than 1; scape slender, antennæ inserted near the clypeus, distinctly below the long eyes which converge, the vertex narrow, the scrobes short, semicircular, not reaching to middle of the face. Axillæ distinctly separated, together with the scutellum densely finely punctate. Scutum and abdomen finely scaly but distad the former glabrous, the cephalic raised, triangular piece sculptured like the scutellum; pronotum finely scaly, also the head. Caudal margins of first two or three abdominal segments slightly incised at meson.

From one female caught in forest, January 4, 1914.

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 2489*, Queensland Museum, Brisbane, the specimen on a tag; legs and antenna on a slide.

27. EUPELMUS CLAUDUS new species.

Female:—Length, 2.60 mm., excluding ovipositor, which is extruded for a length equal to half that of the abdomen.

Varicolored. Very deep orange yellow, the eyes greenish, the second segment of abdomen (or proximal fourth or somewhat more), coxæ, distal third of scape, distal three fourths of pedicel, funicle joints 1 to 6, articulations of the legs, tips of tibiæ and the tarsi silvery white; rest of abdomen honey yellow, the silvery white followed by three cross-stripes of darker yellow, close together; middle of silvery white of abdomen with a rather broad dusky black cross-stripe which is incised at meson of caudal margin. Distal two funicle joints and club jet black. Proximal two thirds of scape yellow, the distal margin of the yellow dusky black and oblique. Distal edge at meson and caudo-lateral portions of propodeum and the scutum (between the "parapsidal furrows" and caudad of the raised triangular piece, the marking longer than wide) metallic green. Somewhat over proximal third and the immediate tip of extruded part of valves of ovipositor black, the intermediate portion yellowish white. Legs concolorous; middle femora and tibiæ with black streaks along margins; caudal femur with the distal edge black; caudal tibiæ dusky, except broadly at tip. Abdomen with a rather large silvery white spot in lateral aspect somewhat distad of middle. Fore wings lightly

embrowned from the origin of the curve of the submarginal vein distad to apex, a darker brown spot under the stigmal vein and a faint, curved, rather narrow, subhyaline cross-stripe from apex of postmarginal vein; also deeper brown transversely from bend of submarginal vein. Postmarginal vein somewhat longer than the stigmal.

Club obclavate; pedicel not long, a little longer than funicle 4 which is longest, somewhat longer than wide; funicle 1 like a ring-joint, much wider than long, 2 a little longer than wide, over two and a half times longer than 1, 5-8 subquadrate; second club joint shortest, much wider than long. Hind tibial spurs double. Head and thorax densely shagreened, the metallic portion of scutum with silvery pubescence. Segment 2 of abdomen rather deeply incised at meson caudad, the next three segments only slightly so. Axillæ separated a very short distance. Fore wings perfect. A silvery streak cephalad on mesothorax dorsad in lateral aspect. Teeth on middle tibiæ not black.

From two females caught in jungle, April 2, 1914.

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 2850,* Queensland Museum, Brisbane, one a female on a tag; antenna, hind tibia and part of fore wing on a slide.

In the second specimen, the dusky stripe across the silvery base of abdomen was divided along the meson by a narrow silvery space and the yellowish white portion of the ovipositor was much shorter, less than two thirds the length of the black proximal portion (subequal to it in the type).

28. EUPELMUS BABINDAENSIS new species.

Female:—Length, 2 mm., excluding extruded portion of ovipositor which is as long as two thirds of the abdomen's length.

Dark metallic green, the wings lightly stained (yellowish) except near base. Scape, tarsi, tibiæ, second coxæ and femora and hind femora, yellowish brown; knees white, rest of legs concolorous. Cephalic tibia with a concolorous band just below knees, hind femora and tibiæ a little dusky toward base. Abdomen at immediate base dorsad and at base of sides rather broadly, silvery white; somewhat over distal half of ovipositor yellowish white. Hind tibial spurs double, the smaller spur no longer than the apical setæ but stouter. Mandibles tridentate, maxillary palpi black. Pedicel longer than any of the funicle joints of which 4 is longest, four fifths the length of the pedicel, one and a third times longer than wide; funicle 1 quadrate, also 8 but the latter over twice the size of 1. Thorax scaly. Axillæ just separated at meson. Teeth on middle tibiæ concolorous with the legs.

From one female caught by sweeping jungle, February 11, 1914 (A. P. Dodd).

Habitat: Babinda, Queensland.

Type: No. *Hy 2851,* Queensland Museum, Brisbane, the female on a tag; head and a hind tibia on a slide.

29. EUPELMUS HOOKERI new species.

Female:—Length, 4.50 mm., excluding ovipositor which is extruded for not quite a third of the length of the long abdomen.

Dark metallic green, the abdomen and mesopleurum purple, the fore wings infuscated from the bend of the submarginal vein distad to apex; the infuscation deeper longitudinally a little cephalad of middle from base of marginal vein to apex of stigmal (forming a rather broad longitudinal stripe) and rather broadly across along its proximal margin. Postmarginal vein over twice the length of the stigmal. Legs concolorous except knees, tips of tibiæ, tarsi and intermediate tibiæ which are reddish brown. Tip of ovipositor white, also proximal tarsal joints of middle and hind legs, the proximal joint of the latter twice longer or nearly than the same joint of the middle legs. Ovipositor concolorous except at tip, the long, intermediate portion brownish black. Hind tibial spurs double, distinct. Hind tibia with a rather

broad yellow band somewhat proximad of middle. Funicle 1 a little longer than wide but much smaller than 8 which is quadrate; 2 elongate, longest, five or more times longer than wide, 3 and 4 subequal, each a little shorter than 2, longer than the pedicel; following joints gradually shortening but 7 still longer than wide. Teeth on middle tarsi black, ovipositor horizontal. Abdomen longer than the rest of body, straight, segments 2 and 3 deeply notched at meson of caudal margin, segment 4 slightly so; abdomen scaly reticulate, the head and thorax uniformly more densely so. Axillæ distinctly but not very widely separated. Scutellum longitudinally, finely, lineolated.

From one female taken by sweeping jungle, February 13, 1914 (A. P. Dodd).

Habitat: Babinda, Queensland.

Type: No. *Hy 2852*, Queensland Museum, Brisbane, the specimen on a tag; head and hind legs on a slide.

30. EUPELMUS LONGICAUDA new species

Female:—Length, 1 mm., excluding ovipositor which is exserted for a length equal to that of the abdomen.

Dark metallic green, the wings hyaline, the legs pale yellow, the coxæ concolorous at base; funicle 1 suffused with white, wider than long, 2 quadrate, 3 longest, slightly longer than wide, 8 wider than long. Postmarginal vein slightly longer than the stigmal. Proximal fourth and somewhat over distal third of extruded portion of ovipositor concolorous, the remainder white, the distal dark subequal to the white. Scape concolorous. Axillæ slightly separated. Thorax and abdomen finely scaly. Fore femur slender.

From one female caught on mainland, December 24, 1911.

Habitat: Double Island (Cairns), Queensland.

Type: No. *Hy 2853*, Queensland Museum, Brisbane, the female on a tag; head, fore and hind legs on a slide.

31. EUPELMUS CHAUCERI new species.

Female:—Length, 4.50 mm., excluding ovipositor which is extruded for nearly half the length of the abdomen.

Very robust. Dark metallic blue, the wings hyaline, the scape, knees, distal half of cephalic tibiæ, middle legs except coxæ and the caudal tibiæ, rich reddish brown, the knees darker. Tarsi and tip of caudal tibiæ yellowish. A little over the distal three fourths of the extruded portion of the ovipositor valves yellowish white, the short proximal part blue. Differs from *babindaensis* in being very much more robust, the hyaline wings and in coloration. Pedicel slightly longer than funicle 3 which is longest, somewhat longer than wide, 2 and 4 nearly as long as 3, 1 a little wider than long; last two funicle joints subequal, each a little wider than long and thrice the size of 1; club short, ovate. Abdomen conic-ovate, produced beneath. Hind tibial spur single; middle tarsi beneath with black teeth. Postmarginal vein slightly longer than the stigmal. Segments 2 and 3 of abdomen deeply incised at meson of caudal margin, 4 much less so, 5 only slightly so; abdomen densely scaly. Axillæ distinctly a little separated mesad. Thorax and head densely scaly. Scrobes deep, triangular, their margins obtuse; a thick ridge between antennæ and separating the scrobes at base. Pubescence not conspicuous.

From one female taken in forest, May 8, 1914.

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 2854*, Queensland Museum, Brisbane, the female on a tag with the type of *babindaensis*.

32. EUPELMUS NELSONENSIS new species.

Female:—Length, 3.50 mm., excluding extruded valves of ovipositor which are a third the length of abdomen, white, a little dusky just before tip, proximal sixth black.

Dark metallic green, the legs and scape yellowish white except cephalic and caudal coxæ, cephalic femur and proximal half dorsad and ventrad of cephalic tibia; caudal femur darker along proximal half. Wings hyaline. Runs to *chauceri* but differs in being not quite so robust, the scutellum is declivous, the legs and scape paler, the venation pale, funicles 2 and 3 are subequal, longest and the caudal femur is not concolorous. Otherwise about the same. Frons broad in both species.

From one female caught in forest, November 30, 1913.

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 2855*, Queensland Museum, Brisbane, the female on a tag with type of *chauceri* and *babindaensis*.

33. EUPELMUS LISTERI new species.

Female:—Length, 1.30 mm., excluding extruded valves of ovipositor which are about as long as the abdomen, wholly black.

Differs both from *australis* and *australicus* in having the first three funicle joints about subequal and wider than long, 4 longest and from *australicus* in having only the side of the abdomen golden yellow, the dorsum and venter washed with metallic green, the yellow showing through and on proximal third there are about three dusky cross-stripes. In *australis*, the abdomen is dark metallic green except the sides rather narrowly. Prepectus golden yellow in all three species.

From four females caught by sweeping sand-ridges near coast, May 15, 1914 (A. P. Dodd).

Habitat: Chindera (Tweed River), New South Wales.

Type: No. *Hy 2856*, Queensland Museum, Brisbane, two females on a slide with the type of *burmeisteri*.

Dedicated to Joseph Lister.

34. EUPELMUS SCUDDERI new species.

Female:—Length, 1.40 mm., excluding extruded valves of ovipositor which are a third the length of abdomen and with the middle white portion longer than the two black portions.

Runs close to *folsomi* but differs in that the abdomen is margined along proximal three fourths, crossed on the distal half of dorsum by three dusky stripes, the first short at middle; also the hind tibia bears a spot dorsad below knee, the hind femur distinctly concolorous along proximal two thirds ventro-laterad and the cephalic tibia bears also a spot below knee dorsad. Otherwise the same. Prepectus concolorous in both species.

From one female caught in forest, May 15, 1914 (A. P. Dodd).

Habitat: Chindera (Tweed River), New South Wales.

Type: No. *Hy 2857*, Queensland Museum, Brisbane, the female on a slide with type of *folsomi*.

Dedicated to Samuel Hubbard Scudder.

35. EUPELMUS BRUNNELLA new species.

Female:—Length, 1.90 mm., exclusive of ovipositor which is extruded for about a third the length of the abdomen.

Runs to *crawfordi* but differs in that the abdomen is concolorous (*i.e.* brown), the legs all pale yellow except cephalic coxa and femur, the body more robust, the head, scutum and scutellum (sometimes the entire thorax) dark metallic (the scutellum declivous in both species), the fore wing is stained yellow under all of marginal vein, the funicle joints are all slightly longer, the pedicel also. Postmarginal vein a little shorter than the stigmal. Otherwise the same. Compared with type of *crawfordi*. Hind tibial spur single.

From two females caught in jungle, January 15, 1914 (A. P. Dodd).

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 2858,* Queensland Museum, Brisbane, the female on a tag with the type of *crawfordi.*

36. EUPELMUS ARGENTINOTATUS new species.

Female:—Length, 1.80 mm., exclusive of extruded valves of ovipositor which are two thirds the length of the abdomen, dusky at tip, proximal two thirds purple, rest white.

Runs to *babindaensis* but a little over proximal half of scape is concolorous, its distal third or more, the pedicel and funicle 1 silvery white; the cephalic tibiæ are concolorous (in both species) just below knees.

From one female caught in jungle, May 2, 1914 (A. P. Dodd).

Habitat: Tweed Heads (Tweed River), New South Wales.

Type: No. *Hy 2859,* Queensland Museum, Brisbane, the specimen on a tag; hind tibia, antennæ and a fore wing on a slide with type of *longicorpus.*

37. EUPELMUS DUMASI new species.

Similar in all respects to *renani* but the wings are hyaline, all the tibiæ pale, the femora dusky (washed lightly with metallic) and funicle 2 is a little the longest, 3 and 4 subequal, each a little longer than wide, a little shorter than 2.

From two females caught in forest, January 6, 1913.

Habitat: Capeville (Pentland), Queensland.

Type: No. *Hy 2860,* Queensland Museum, Brisbane, two females on a tag with type of *renani,* two heads on a slide.

Dedicated to Alexandre Dumas, père.

38. EUPELMUS PAGANUS new species.

Female:—Length, 2 mm., the ovipositor not extruded, the abdomen conical, distinctly longer than the thorax. Slender.

Runs to *worcesteri* and resembles that species in all respects yet not half as large, the pale parts of the legs are silvery white, funicles 1 and 2 are wider than long, 4 longest (3 a little the longest in *worcesteri*) yet only a little longer than wide, distinctly shorter than the pedicel. Both species are exceptional in having the ridges of the scutum subobsolete and the axillæ widely separated. Hind tibial spur single.

From one female caught by sweeping in forest, November 8, 1913.

Habitat: Stewart's Creek, Queensland.

Type: No. *Hy 2851,* Queensland Museum, Brisbane, the female on a tag with type of *worcesteri*; head and a hind leg on a slide with type of *dumasi* Girault.

39. EUPELMUS CHARITOLOPHOIDES new species.

Female:—Length, 2.50 mm., the ovipositor not extruded, slightly (not distinctly) pale at tip.

Runs closest to *worcesteri* and resembles that species in thoracic structures. Wings subhyaline. Dark metallic purple, the abdomen green, the mesopleurum and hind coxæ dark blue. Scape except slightly at tip above, tarsi, tip of fore tibiæ and rest of legs except coxæ, reddish brown. Middle tibial spur white, middle tarsi with black teeth beneath. Caudal margins of segments 2 and 3 of abdomen distinctly incised at meson, 4 slightly so, others straight, entire. Funicle 1 longer than wide, 2 longest, somewhat longer than wide and barely longer than 3 or 4, shorter than the pedicel, 7 and 8 a little wider than long. Venation dusky,

the postmarginal vein somewhat longer than the stigmal, the latter curved, not especially short. Head and thorax coarsely scaly, nearly scaly-punctate, the abdomen coarsely scaly. Lateral ocelli their own diameter from the eye margins. Segment 2 of abdomen short. Caudal tibial spurs double, one spur no longer than the apical setæ yet stouter. Antennæ inserted about in the middle of the face.

From one female caught in jungle, July 11, 1914.

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 2852*, Queensland Museum, Brisbane, the specimen on a tag.

40. EUPELMUS ALBIPES new species.

Female:—Length, 2 mm., excluding the extruded valves of ovipositor which are as long as the abdomen.

Runs to *crawfordi*. Brown, the scutum metallic green. Differs from *crawfordi* in that the valves of the ovipositor are distinctly longer, the legs are silvery white except the caudal coxæ and the abdomen is concolorous with rest of the body. Also the scape is brown and the scutellum is not declivous. The single specimen had the abdomen so much compressed as to form a line from dorsal aspect. Otherwise like *crawfordi*.

From one female caught April 1913, in forest.

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 2863*, Queensland Museum, Brisbane, the specimen on a tag with type of *crawfordi*.

41. EUPELMUS AURIVENTRIS new species.

Female:—Length, 1.60 mm., excluding ovipositor which is extruded for nearly two thirds length of abdomen, yellowish white, black only at base, dusky at extreme tip.

Runs close to *testaceiventris* Cameron. Æneous purplish, the wings stained yellowish, the abdomen and legs bright golden yellow. Coxæ, cephalic femur, cephalic tibia at proximal half, a round spot on each side of middle femur some distance before knee, a distinct ring around middle tibiæ a short distance out from knee and a marginal dot on abdomen at base, dark metallic green. Tip of scape, pedicel and funicle 1 silvery white; funicle 1 subquadrate, 4 nearly twice longer than wide, longest, over twice the length of 1 which is smallest. Pedicel a little longer than funicle 4. Scape compressed. Funicle 2 nearly twice longer than 1, shorter than 3. Body finely reticulated.

From two females caught January 23, 1913. Forest.

Habitat: Townsville, Queensland.

Types: No. *Hy 2864*, Queensland Museum, Brisbane, the two females on a tag, their heads on a slide.

42. EUPELMUS SOROR new species.

Female:—Length, 2.05 mm., excluding ovipositor which is a little longer than the slender abdomen.

Runs to *australiensis* differing from that species in being more robust and the abdomen is wholly golden yellow except at base above for a short distance (the dorsum washed with metallic in *australiensis*); also funicle 3 is distinctly longer than wide, 2 slightly longer than wide, 4 longest, longer than 3. Differs from *australis* in not having the abdomen nearly wholly dark metallic green and *australicus* in not having the abdomen margined with metallic green, funicle 4 is longest and so on. Differs from *listeri* in the color of the abdomen and the longer and more unequal proximal funicle joints. Funicle 4 somewhat shorter than the pedicel which is white at apex, together with funicle 1, the latter a little wider than long. Scape compressed a little. A narrow line of yellow down side of thorax from and including

the prepectus. Spots of middle femur ventrad. Funicles 2 and 3 subequal, each a little longer than wide, 1 distinctly shorter than either.

From one female caught in forest, January 23, 1913.

Habitat: Townsville, Queensland.

Type: No. *Hy 2865,* Queensland Museum, Brisbane, the specimen on a tag; head on a slide with type appendages of *E. auriventris.*

43. EUPELMUS PACHYSCAPHA new species.

Female:—Length, 1.70 mm., excluding ovipositor which is black and extruded for a length equal to three fourths that of the abdomen, the valves minutely densely feathery.

Dark metallic blue, the tarsi and tips of tibiæ white, the abdomen pale yellowish brown washed with metallic purple along the distal half dorsad and along the lateral aspects, the form slender and like that of *australiensis.* Fore wings with a midlongitudinal dusky rather narrow stripe from apex to a point about opposite apex of the submarginal vein, otherwise hyaline, the venation very pale. Scape greatly, foliaceously flattened, rectangular, the flagellum subclavate, the funicle joints all cupshaped and wider than long, larger distad, all smaller than the small pedicel which is hardly longer than wide. Postmarginal vein longer than the stigmal.

Described from one female captured by sweeping in forest, September 22, 1914.

Habitat: Capeville (Pentland), Queensland.

Type: No. *Hy 2866,* Queensland Museum, Brisbane, the above specimen in alcohol with the type of *Atoposoma unguttatipes.*

Of the foregoing species, *worcesteri, paganus* and *charitolophoides* probably belong to *Charitolophus* Foerster but do not agree with the diagnosis as given by Ashmead (1904) as regards the insertion of the antennæ. It is not safe to trust solely to the following table for species in this genus since the species referred to *Anastatus* may become confused. Tables to both genera should be used conjointly. The species are common in forest grasses.

DIAGNOSIS OF THE AUSTRALIAN SPECIES OF *EUPELMUS.*

Females.

I. Body, excluding appendages, wholly metallic green.

Extruded portion of valves of ovipositor wholly concolorous (if not extruded, tips not white). Compare *paganus, charitolophoides* and *pachyscapha.*

Valves of ovipositor not or barely extruded; wings hyaline.

Legs concolorous; very large.

Axillæ very widely separated; funicles 3 and 4 longest, 1 longer than wide. Tips of tibiæ brownish .. .. *worcesteri* Girault.

Only some of the legs more or less concolorous. Of normal size.

Legs golden yellow except coxæ, washed obscurely with submetallic on last two pairs of femora and tibiæ; scape compressed; pedicel elongate, longer than funicle joints separately; funicle 2 about twice longer than wide; most of middle tibia yellow. Funicle 1 a little longer than wide .. .. *mawsoni* Girault.

Legs with middle of femora and tibiæ darker (except cephalic femora); the same but funicle 2 plainly not twice longer than wide; funicle 1 wider than long, 3 subequal to 2, quadrate .. .. *lambi* Girault.

Valves of ovipositor extruded for third the length of abdomen. Wings infuscated from about middle of marginal vein to apex.

Legs concolorous except tips of tibiæ and the tarsi; pedicel much longer than any of the funicle joints of which 4 is longest. Compare *dumasi* .. .. *renani* Girault.

Extruded portion of valves of ovipositor white at extreme tip only, the valves extruded for some length.

Fore wing infuscated from bend of submarginal vein to apex. Valves of ovipositor a third the length of abdomen.

Very robust. Legs concolorous except knees, tips of tibiæ, tarsi and middle tibiæ which are reddish brown; hind tibia with a rather broad yellow band somewhat proximad of middle; funicle 2 elongate. Scutellum longitudinally, finely lineolated .. .. *hookeri* Girault.

Fore wing hyaline. Valves of ovipositor extruded for two thirds or more the length of the abdomen. Not very large.

Long and slender, the valves of the ovipositor compressed, as long as the long abdomen; knees, distal third of tibiæ and the tarsi pale yellow; funicle 2 longest, over twice longer than wide, 1 longer than wide .. .. .. *compressicauda* Girault.

Not long and slender, the valves of ovipositor normal, two thirds the length of the abdomen; middle tibiæ wholly pale yellow; funicle 1 wider than long *fieldingi* Girault.

Extruded valves of ovipositor white distad along much more than extreme tip. (Compare *grotii*, description.)

Fore wings distinctly infuscated.

Infuscation of fore wing along distal two thirds; valves of ovipositor much extruded, two thirds white; tips of tibiæ and the tarsi yellowish. Species not very large .. .. *antipoda* Ashmead

Infuscation of fore wing from bend of submarginal vein distad to beyond venation, the infuscation accented in two places; valves of ovipositor only shortly extruded, white at distal half; legs the same but hind tibiæ silvery white along little over proximal half; very large. Funicle 2 long. Frons narrow. Scutellum declivous .. .. .. *motschulskini* Girault.

Fore wings hyaline; distal two thirds or more of valves of ovipositor whitish.

Very robust. Scape reddish brown; ovipositor valves extruded for half the length of abdomen; legs concolorous except middle legs, tips of cephalic tibiæ, hind tibiæ and knees which are reddish brown; tips of hind tibiæ and all tarsi yellow. Funicle 2 not long .. .. *chauceri* Girault.

See description .. .. *nelsonensis* Girault.

Small. Funicle 1 white; ovipositor valves extruded for a third the length of abdomen; legs golden yellow; a dusky band on middle legs each side of knees; coxæ concolorous .. .. *burmeisteri* Girault.

Extruded valves of ovipositor with an intermediate white portion. Wings hyaline.

Valves of ovipositor extruded for a length equal to that of the abdomen.

Legs pale yellow except coxæ at base; proximal fourth and distal two thirds of ovipositor concolorous, the rest white. Funicle 1 wider than long, 3 longest. Small .. .. *longicauda* Girault.

Valves of ovipositor extruded for not more than a third the length of the abdomen.

Legs pale lemon yellow except coxæ and the cephalic femur lightly; distal fourth of ovipositor black .. .. *montaignei* Girault.

Legs concolorous except knees, middle tibiæ, tips of tibiæ broadly and the tarsi which are whitish. Distal black portion of ovipositor subequal to the white portion and longer than the proximal black portion .. .. .. *grayi* Girault.

The same but the middle white portion of ovipositor distinctly shorter than the black proximal portion which is but slightly shorter than the distal black portion .. .. *lavoirsieri* Girault.

Extruded portion of valves of ovipositor white at base only. Wings hyaline.

Valves of ovipositor extruded for nearly a third the length of the abdomen, the proximal fourth white. Body small. Legs lemon yellow except coxæ; proximal half of scape and funicle 1 white. Pedicel a little longer than funicle 4 .. *pudicus* Girault.

Valves of ovipositor extruded for only about a sixth of abdomen, the proximal half white. Body large.

Legs brownish yellow except coxæ and sides of cephalic femur. Pedicel shorter than funicle 4 .. .. *longicorpus* Girault.

II. Body, excluding appendages, brown washed with metallic, the abdomen honey yellow.

Wings hyaline; valves of ovipositor extruded for a third the length of abdomen, white, black at base, brown at distal fourth; scape and legs pale except coxæ and femora. Pedicel much longer than any of the funicle joints. Middle legs all pale .. .. *crawfordi* Girault.

See descriptions .. .. *albipes* and *brunella* Girault.

III. Body, excluding appendages, dark metallic green or blue, the abdomen mostly, or with much, yellow. Wings hyaline. Slender, graceful species.

Valves of ovipositor wholly black, plainly not as long as the body. Compare *soror*.

Legs except coxæ lemon yellow; middle femora with a spot above on each side, just before knee; sides and venter of abdomen yellow; funicle 3 quadrate, 1 white (more or less). Middle tibiæ with a spot just below knee .. .. .. *australiensis* Girault.

The same but the body stouter, ovipositor valves longer, funicle 3 a little longer than wide; also only the sides of abdomen are yellow .. .. *australis* Girault.

The same but abdomen margined down each side for proximal three fourths; middle knees with a spot above and below them. Funicle 3 longest, somewhat longer than wide .. .. *australicus* Girault.

Compare description .. .. *listeri* Girault.

Valves of ovipositor partly white. Wings hyaline.

Valves of ovipositor extruded for a length equal to that of the body.

Abdomen yellow, margined with metallic along proximal three fourths. A spot above and below middle knees; rest of legs (except coxæ) yellow; valves of ovipositor rather obscurely whitish on second proximal fourth. Prepectus yellowish. Funicle 1 white, quadrate, 2-4 longest. Apex of pedicel white .. .. *greelyi* Girault.

Valves of ovipositor extruded for a length much less than that of the body.

The valves white centrally. Compare *auriventris*.

Legs golden yellow, the middle knees with a spot above and below them. Coxæ concolorous.

Abdomen yellow, margined along proximal two thirds; a yellow stripe down each side of thorax; ovipositor valves brownish distad, the brown about half the length of the black proximal portion. Valves of ovipositor extruded for two thirds the length of abdomen. Funicle 4 longest .. .. *varicolor* Girault.

The same, the abdomen margined along proximal half, the thorax wholly metallic, the cephalic femur broadly concolorous centrally, funicle 2 quadrate, 1 white .. .. .. *folsomi* Girault.

See description .. .. *scudderi* Girault.

Legs golden yellow, the caudal two pairs of knees with a spot above and below them. Coxæ concolorous.

Ovipositor as long as the abdomen, the latter yellow along sides and venter. Prepectus yellow; a dusky spot on caudal tibia ventrad of the spot below knee .. .. .. *vulgarellus* Girault.

Legs the same but the spot on middle femur is long and there is a spot below cephalic and caudal knees.

Abdomen yellow, margined from base nearly to apex; proximal half of caudal femur concolorous .. .. .. *baileyi* Girault.

The valves white along distal two thirds.

Abdomen yellow, blue along sides of segment 3 dorsad and dorsum of segment 2 except at base; legs yellow except coxæ; a spot above and one below middle knees; hind tibia dusky at base and a broad black line on either side of proximal half of caudal femur *testaceiventris* Cameron.

IV. Body dark metallic green, the abdomen marked with white. Scape yellowish white.

Abdomen silvery white at immediate base dorsad and rather broadly so laterad; ovipositor two thirds the length of abdomen, somewhat over its distal half yellowish white; tibiæ, tarsi, middle femur and coxa and caudal femur yellowish brown. Pedicel longer than any of the funicle joints .. .. .. *babindaensis* Girault.

See *argentinotatus* Girault.

V. Body, excluding appendages, varicolored. Fore wings infuscated to apex or nearly from bend of submarginal vein.

Metallic purple-green; valves of ovipositor with an intermediate white portion; most of pronotum, scape, legs, ventral face, caudal three fourths of mesopleurum, axillæ and cephalic two thirds of scutellum rich reddish brown. Proximal third of abdomen white. Funicle 4 longest. Immediate apex of fore wing hyaline. See description .. *multicolor* Girault.

Orange yellow; segment 2 of abdomen, coxæ, distal third of scape, distal three fourths of pedicel, funicles 1-6, leg articulations, tips of tibiæ and the tarsi silvery white; rest of abdomen honey yellow; distal two funicle joints and club jet; caudal scutum metallic green. Dorsal edge of caudal femur black. See description .. .. .. *claudus* Girault.

Genus ANASTATUS Motschulsky.

Synonyms: *Paraguaya* Girault; *Ooderelloides* Girault.

I thought this genus would prove the same as *Eupelmus* but the shape of the abdomen, though not greatly different, may be constant. The genus may be distinguished from *Eupelmus* by reason of the fact that the abdomen gradually widens nearly to apex and then rapidly narrows to form an obtuse apex. In *Eupelmus*, the abdomen gradually widens from base to about middle or a little distad of middle, then gradually narrows to apex. Also in *Anastatus* the dorsum is usually more depressed, sometimes markedly so. The species often bear bifasciate wings and a silvery band about the base of the abdomen. The ring-joint is really funicle 1; it may be distinctly longer than wide.

1. ANASTATUS PIPUNCULI Perkins. Female.

Length, 2 mm. Head and face reddish purple, the vertex with short black hairs; the face with white, short but conspicuous pubescence; the surface dull, rough with indefinite sculpture. Antennæ subclavate, dark, metallic in some aspects; 13-jointed with one ring-joint. Eyes divergent cephalad, the ocelli in a triangle which is much widest at base, the caudal one near the eye margins. Thorax blackish purple, the mesonotal ridges sharp, parallel, the clothing white and conspicuous and, like the sculpture, very similar to that of the face. Wings fuscous, hairy, a hyaline, hairless, rather narrow, slightly curved transverse band beneath the marginal vein (at about its middle) and a clear space at the base of the wing. Stigmal vein long but shorter than the postmarginal. Hind tibial spurs double, much unequal. Tarsi more or less yellowish brown, the caudal tarsi darker; nearly all of caudal legs blackish, also the middle and cephalic tibiæ, their femora largely dark brown or blackish also. Abdomen purplish black,

depressed at proximal two thirds and with a transverse subbasal white band, the three segments following this subequal. Ovipositor barely exserted. Eyes probably bare. Funicle 1 longest, over twice its own width and longer than the pedicel.

Habitat: Bundaberg, Queensland. Parasitic upon *Pipunculus cinerascens.*

Type: Query.

2. ANASTATUS NIGRIPURPUREUS (Girault). Female. Genotype of *Ooderelloides* Girault.

Length, 3.60 mm. Bluish black, the head and thorax deep blue; tip of ovipositor valves, scape and tarsi whitish; trochanters and tips of tibiæ white. Fore wings lightly stained from the base of the marginal vein to apex. Distal two funicle joints wider than long. Stigmal and postmarginal veins subequal, moderate in length. Funicle 2 long, subequal to the pedicel, 1 subquadrate, narrow. Valves of ovipositor slightly extruded. Hind tibial spur single. Cephalic femur somewhat swollen, emarginate ventrad near apex. Scutellum declivous.

Habitat: Cairns District, Queensland.

Type: No. *I. 1272,* South Australian Museum, Adelaide.

3. ANASTATUS PAX (Girault). Female.

Ooderelloides pax Girault.

Length, 4.10 mm. Differs from *nigripurpureus* in that the abdomen is more depressed and somewhat longer, the valves of the ovipositor exserted somewhat farther and wholly black, the scutellum is not declivous and the stigmal vein is slightly shorter, straighter and stouter. Scutellum wedge-shaped, the narrow end cephalad.

Habitat: Mount Tambourine, Queensland.

Type: No. *I. 1273,* South Australian Museum, Adelaide.

4. ANASTATUS SPLENDIDUS (Girault). Female.

Ooderelloides splendidus Girault.

Length, 3 mm. Brilliant metallic blue-green with purplish reflections, the abdomen and mesopleurum coppery, the scape metallic blue, the antennæ black, the legs concolorous, the tips of tibiæ and tarsi whitish; extruded portion of ovipositor as long as in *pax,* whitish, its distal third black. Fore wings with a distinct dusky blotch from the marginal and postmarginal veins and slightly beyond (distad), the apex and rest hyaline; the blotch disappears (or nearly) two thirds the way across to the caudal margin, so it is rectangular but irregularly so. Abdomen shaped as in *pax.*

Otherwise as in *nigripurpureus* except that the venation and scutellum differ a little.

Habitat: Lawson, New South Wales.

Type: No. *I. 1274,* South Australian Museum, Adelaide.

5. ANASTATUS COLEOPTERORUM (Girault). Female.

Calosoter coleopterorum Girault.

Length, 4 mm. Metallic blue-black, the wings hyaline, the face with slight metallic green; antennæ and legs black, the tarsi brownish. Densely, finely punctate. Funicle 1 longer than wide, all the funicle joints shorter than the pedicel, 3 and 4 longest, 2 subquadrate, slightly shorter than 3; the distal joint wider than long. Postmarginal and stigmal veins rather long, subequal, the stigmal curved, not half the length of the marginal. Caudal tibiæ with two short spurs; cephalic femora somewhat bent, all the legs normal. Abdomen depressed, the ovipositor not exserted.

Habitat: Hobart, Tasmania. Reared from wood.

Type: No. *I. 1276,* South Australian Museum, Adelaide.

6. ANASTATUS FREDERICI new species.

Female:—Length, 3 mm., excluding ovipositor which is extruded for a little over a fourth the length of the abdomen.

Somewhat like *Eupelmus hookeri* but somewhat smaller, the valves of the ovipositor shorter, dusky at tip, black at proximal third, the rest white; the scape is reddish brown; the abdomen is shorter; the postmarginal vein is much shorter, subequal to the stigmal; the middle tibia is a little purplish just below knee; the distal third of caudal tibia is yellowish white; the funicle joints are shorter and the infuscation of the fore wing differs in that the longitudinal deeper infuscation is less distinct. Hind tibial spur single. Funicle 1 quadrate, 2 longest, a little over thrice longer than wide at base, 3 a little shorter than 2, 4 still shorter, somewhat longer than wide, 6 quadrate, 7 and 8 subequal, each a little wider than long. Pedicel somewhat shorter than funicle 2. Segments 2-5 of abdomen incised at meson of caudal margin but obtusely so and not very deeply. Head and body finely scaly, the scutum rather coarsely so (coarser than in *hookeri*); scutellum scaly, not striate as in *hookeri*. Compared with type of *hookeri*. Axillæ separated but not widely so. Frons broad.

From one female taken in forest, May 8, 1914.

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 2867*, Queensland Museum, Brisbane, the specimen on a tag

Also one female same place, April 27, 1914.

7. ANASTATUS PENTATOMIDIVORA new species.

Female:—Length, 2.95 mm.

Dark metallic purple, the scape rufous, the antennæ otherwise and the legs concolorous. Fore wings sooty from the curve of the submarginal vein distad to end of postmarginal vein, the sooty part bearing two oblique eye-spots, the cephalic one against marginal vein a little beyond its middle, the caudal and opposite one from the caudal margin, both elliptical in shape. Abdomen depressed, narrowed toward base, the caudal margins of segments 2-5 incised at meson, the incision deepest on 2 but not very large. Front femur distinctly swollen; middle tibiæ with strong black teeth. Antennæ 13-jointed, the ring-joint large, funicle 1 longest, over two and a half times longer than wide, 2 a fourth or more shorter, 3 subequal to 2 but a little wider, next joints wider and shorter, the last two funicle joints wider than long; funicle 4 subequal to the pedicel. Club short. Hind tibial spurs double, very unequal, one long, the other very short. Antennæ inserted about on a level with the eyes. Head shagreened, the eyes naked, the lateral ocelli not touching the eyes. A large triangular portion of scutum from meson of cephalic margin (apex caudad) and the scutellum, densely, rather finely punctate; rest of scutum shining but really extraordinarily finely lined. Abdomen very finely scaly. Tip of ovipositor whitish, not exserted.

From three females reared from pentatomid eggs, forest, December, 1913 (A. P. Dodd).

Habitat: Gordonvale (Cairns), Queensland.

Types: No. *Hy 2868*, Queensland Museum, Brisbane, three females on a tag; legs and antenna on a slide.

A female was taken in April, type habitat.

A. ANASTATUS NONEXCISUS new variety (of *pentatomidivora*).

Female:—Like the typical form, the fore wings hyaline rather broadly around the apex but only the caudal margin of segment 2 of abdomen is incised at meson. This margin is white in both.

From one female taken in forest in December.

Habitat: Gordonvale (Cairns), Queensland.

8. ANASTATUS BLATTIDIFURAX new species

Female:—Length, 3 mm.

Dark metallic blue, the abdomen with a white band at apex of proximal fourth; tip of valves of ovipositor white, the valves not exserted. Legs and antennæ concolorous; antennæ 13-jointed with one ring-joint which is a little wider than long; funicle 1 subequal to 2 and 3 and longest, 7 a little wider than long, less than half the length of 1 which is much longer than the pedicel. Hind tibiæ with but one spur, the middle tibiæ with black teeth, the front femur somewhat swollen. Fore wings embrowned slightly at immediate base and distinctly from the bend of submarginal vein to apex, the infuscation interrupted by a rather narrow white curved transverse stripe from about a little distad of the middle of the marginal vein and faded around apex. Thorax very finely scaly. Postmarginal vein much longer than the stigmal. Cephalic half of mesopleurum hairy.

Male:—A third smaller and the tibiæ of cephalic legs are pale. The mesopleura bear a femoral furrow, the wings are hyaline, the scutum convex and with complete parapsidal furrows. Antennæ thick, cylindrical, 11-jointed, one transverse-linear ring-joint, the club solid, the first funicle joint a little longer than wide, as long as the scape without its bulla, the scape short.

Described from four males, twelve females labelled "13. Bred from ootheca of cockroach from Queensland (on banana). F. P. Spry. 27-1-05."

Habitat: Queensland.

Types: No. *Hy 2869*, Queensland Museum, Brisbane, one male, three females on a tag.

Also four females reared from cockroach eggs in the jungle, Gordonvale, October, 1913 (A. P. Dodd) and one female, Stradbroke Island, 5-12-1913 (H. Hacker).

This species is closely allied with *pipunculi* Perkins but the very shortly projecting part of the ovipositor is pure white, the cross-band of the fore wing appears to be distinctly narrower, the face and scutum do not bear conspicuous white pubescence, there is only one hind tibial spur, the fore wing is embrowned under the proximal half of submarginal vein, clear from margin to margin under distal half and the antennæ appear different, since funicle 1 is subequal to 2 and 3 (in *pipunculi* as figured 1 is plainly longer than 2, the latter a little longer than 3). The host is also different.

9. ANASTATUS INSULARIS new species.

Female:—Length, 1.80 mm., excluding extruded portion of ovipositor which is about a third the length of the abdomen.

Dark metallic purple, the wings a little yellowish, the legs concolorous except tarsi, middle tibiæ except a dusky band below knee and distal half of other tibiæ which together with a band round abdomen just out from base, the pedicel and first two funicle joints, are white. Extruded valves of ovipositor black. Funicle 1 quadrate, small, 2 longest, a little longer than the pedicel, 3 subequal to pedicel, 8 subquadrate, large. Scape obclavate. Hind tibiæ with two spurs, one very short. Thorax with obscure, fine scaliness; caudal half or more of scutum glabrous. Teeth on middle tibiæ white. Fore wings rather slender, the discal cilia very fine and dense; stigmal vein much shorter than the postmarginal, the marginal vein very long, longer than submarginal. Abdomen scaly. Funicle 2 nearly twice longer than wide.

From one female caught in forest, March 12, 1912.

Habitat: Thursday Island, Torres Strait.

Type: No. *Hy 2870*, Queensland Museum, Brisbane, the female on a tag; head on a slide.

Also, a female from Cooktown, Queensland, in March.

10. ANASTATUS TRICOLOR new species.

Female:—Length, 3 mm., exclusive of ovipositor which is extruded for a length nearly equal to two thirds that of the abdomen.

With the same striking coloration as *Parooderella flavithorax* Girault and Dodd and the same as that species except that the wings are perfect, the ovipositor distinctly extruded, the scape swollen at base and dark metallic green along the proximal half, the rest of it, the pedicel and funicle 1 reddish yellow, funicles 2-5 silvery white; rest of antenna black; scape plainly obclavate. Also, the silvery white band around the base of abdomen occupies a third of the surface (a fourth in *flavithorax*; in both species within this band are two rather small eye-spots of metallic purple, one on each side of meson near base). A little over proximal third and the tip of ovipositor valves metallic purple, the long intervening part honey yellow. Pronotum cephalad with some purple. Funicle 1 a little longer than wide; 2 longest, somewhat over thrice longer than wide, 3 and 4 subequal, each slightly shorter than 2, each distinctly longer than the pedicel, 5 subequal to the pedicel, 8 a little longer than wide. Club distinctly much shorter than the scape. Hind coxæ suffused with purple. Postmarginal vein slightly longer than the stigmal. Immediate base of fore wing and a rather broad cross-stripe from a little over proximal third of marginal vein brownish; a broader cross-stripe from distal fourth of marginal and all of submarginal, sooty black; the rather narrow hyaline band between the two cross-stripes crescentic; the second, black cross-stripe bulges convexly proximad and laterad. Marginal vein much longer than the submarginal. Hind coxa suffused with purplish. Caudal margins of segments 2-5 of abdomen incised at meson. Abdomen transversely scaly; scutellum and axillæ very finely longitudinally lined but at distal third the former transversely scaly; scutum glabrous except the cephalic triangular portion which is densely scaly reticulate (this triangular portion is minute in *flavithorax*). Vertex with a broad purple stripe along the meson. Sides of occiput finely lined; face and vertex polished, lower face mesad of genal suture with scattered thimble punctures. Otherwise as in *flavithorax*.

From one female taken by sweeping in jungle, March 1, 1914.

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 2871*, Queensland Museum, Brisbane, the specimen on a tag.

11. ANASTATUS BENTHAMI new species.

Female:—Length, 2 mm., excluding ovipositor which is extruded for somewhat less than a third the length of the abdomen.

Like *splendidus* except that the middle of the ovipositor (extruded portion) is yellowish white, black at base and tip, the apical black the longer of the two. Axillæ moderately widely separated. Abdomen with a scaly sculpture, the lateral ocelli far from the eyes. Second abdominal segment incised at caudal meson. Distal two funicle joints quadrate. Scutum with the same pubescence. Not compared.

From two females labelled "Brisbane, 10-8-13. H. Hacker" and one female labelled "Brisbane, October, 1911. H. Hacker."

Habitat: Brisbane, Queensland.

Type: No. *Hy 2872*, Queensland Museum, Brisbane, the three females on tags (three pins).

Also one female on a slide caught on flowers of *Bæckea*, April 22, 1913, H. Hacker.

12. ANASTATUS RACINEI new species.

Female:—Length, 2.75 mm.

Dark metallic green and agreeing with the description of *blattidifurax* but the scape rufous, the white apex of valves of ovipositor just extruded beyond tip of abdomen and the fore wing pattern differs in that the somewhat curved hyaline band from the marginal vein is distinctly (twice) broader, the apex much clearer, the apical subhyaline portion nearly as broad as the band from the marginal vein. The cephalic third of mesopleura is pubescent. Thorax densely finely scaly-punctate, the pronotum finely transversely lined, the propodeum and

abdomen scaly-reticulate, the caudal margin of the segments of abdomen practically entire, no distinct incision. Pubescence not conspicuous, sparse.

From one female caught by sweeping along a dry forest streamlet, April 15, 1913 (A. P. Dodd).

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 2873*, Queensland Museum, Brisbane, the female on a tag.

A. ANASTATUS RACINEI PRÆCIPUUS new variety.

Female:—Exactly like the typical form but the scutellum abruptly declivous (gently sloped in the typical form) and funicle 2 is somewhat longer than 3.

Same locality, April 2, 1913 by sweeping in forest.

Type: No. *Hy 2874*, Queensland Museum, Brisbane, the female on tag with type of typical form.

13. ANASTATUS PASTEURI new species.

Female:—Length, 1.65 mm., exclusive of ovipositor which is extruded for a third the length of the abdomen.

Allied colorationally with *Eupelmus claudus*. Orange yellow marked with dark metallic green as follows: Center of vertex, embracing the ocelli; all of scutum except a rather large area latero-caudad (cephalad and a little laterad of the axilla) and a small one cephalo-laterad; all of middle portion of pronotum and mesoventer and all of propodeum. Abdomen metallic purplish, with the silvery white band out from base, the extruded valves of the ovipositor brown along somewhat over proximal third, black rather broadly at tip, the intervening portion soiled whitish. Antennæ black, the scape pale; joints 3-6 of funicle silvery white. Legs dusky, the tibiæ and tarsi white; middle tibiæ with a black ring just below the knees. Fore wings lightly stained and with a distinct subfuscous cross-stripe at the bend of the submarginal vein and a large triangular spot whose apex is hung from the stigmal vein and whose base is a little beyond the midlongitudinal line of the wing; from base to the cross-stripe, the fore wing is hyaline except at immediate base. Hind tibial spur single. Axillæ distinctly separated a short distance. Mandibles tridentate. Scape long, compressed; pedicel a little longer than funicle 4 which is longest, a little longer than wide, 1 somewhat wider than long, 2 barely shorter than 4, subequal to 3, twice the length of 1; funicle 8 slightly wider than long. Post-marginal vein somewhat longer than the stigmal. Thorax scaly.

From one female taken in forest, April 15, 1914 (A. P. Dodd).

Habitat: Cloncurry, Queensland.

Type: No. *Hy 2876*, Queensland Museum, Brisbane, the female on a tag; antenna and a leg and a fore wing on a slide with type of *Eupelmus lambi* Girault.

14. ANASTATUS BOUSSINGAULTI new species.

Female:—Length, 2 mm., excluding extruded part of ovipositor which is as long as a fourth of the abdomen or less.

Similar to *Eupelmus longicorpus* Girault but much smaller, the middle of the valves of ovipositor white, the small white portion equal to the distal and proximal concolorous portions.

From one female taken in forest, August 1, 1913.

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 2876*, Queensland Museum, Brisbane, the female on a tag; antenna and a hind tibia on a slide.

15. ANASTATUS DARWINI new species.

Female:—Length, 0.50 mm., excluding extruded valves of ovipositor which are a third the length of abdomen, white centrally.

Similar to the preceding but the femora are all concolorous (except middle ones which are only so along upper and lower edges) and the cephalic and caudal tibiæ are concolorous at

proximal half. Legs otherwise reddish brown. Scutum with distinct but not dense silvery pubescence. Distal black of ovipositor shorter than the white but longer than proximal black. Also the antennæ differ from those of *boussingaulti* in that the pedicel is subelongate, longer than any of the funicle joints (pedicel much shorter than funicle 2 in the other) while the longest funicle joint (3 or 4) is not as long as with that species. The ovipositor is extruded more, the middle white much longer. Resembles *Eupelmus grayi* Girault but somewhat more robust, *grayi* lacks most of the conspicuous pubescence on the thorax and has the middle femur concolorous, the hind tibia more broadly black and the fourth joint of maxillary palpus is longer.

From two females, October, 1911 (H. Hacker).

Habitat: Brisbane, Queensland.

Type: No. *Hy 2877*, Queensland Museum, Brisbane, two females on separate tags; antennæ and hind legs on a slide with type of *boussingaulti*.

16. ANASTATUS ARISTOTELEA new species.

Female:—Length, 2.30 mm.

Very similar to *racinei* but the scape is dark metallic like the rest of the antennæ, the proximal margin of the second (distal) fuscous stripe is straight not forming a triangle as with the other species. Funicle 1 somewhat longer than 2 or 3 which are subequal and somewhat longer than the pedicel. Hind tibial spurs apparently as in *pipunculi* Perkins, from which this species differs in having the cross-band of hyaline very nearly as broad as the first fuscous cross-stripe (plainly not so as figured for that species; less so for *racinei*), the stigmal vein is shorter, the pedicel is longer and the base of the wing infuscated; moreover, the apex of the fore wing is clear. Postmarginal vein somewhat over twice the length of the stigmal. Segments of abdomen not excised at meson of caudal margin. Hyaline band of fore wing with its distal margin just missing base of the stigmal vein. Sculpture about as in *racinei*. Ring-joint wider than long.

From one female caught by sweeping in forest, January 4, 1913.

Habitat: Capeville (Pentland), Queensland.

Type: No. *Hy 2878*, Queensland Museum, Brisbane, the female on a tag; antenna, fore wing and a hind tibia on a slide.

Several more females same place, September 22, 1914. A common species.

17. ANASTATUS BOMBAX new species.

Female:—Length, 3.75 mm., excluding ovipositor which is extruded for a little less than a third of the length of abdomen and is brown-black at tip.

Metallic purple, the propodeum green, the head brassy; fore wings hyaline but with one moderately broad complete cross-stripe and an incomplete one, the latter broader, two thirds complete from most of postmarginal vein; hyaline stripe between them as broad as the second half-stripe, broader than the first stripe. Coxæ and hind legs concolorous, rest reddish brown, the tarsi whitish. Scape reddish brown, rest of antenna black. Segments 2-5 of abdomen incised at meson of caudal margin, 5 only slightly, others not deeply. Cephalic ocellus just tipping apex of the triangular scrobicular cavity whose lateral margins are carinated. Body scaly, scutellum densely shagreened, center of scutum subglabrous. Cephalic femur wide. Venation narrow, the postmarginal vein twice the length of the normal stigmal. Middle tarsi with distinct black teeth ventrad. Hind tibial spur single. Funicle 1 wider than long, club obliquely truncate, funicle 2 nearly thrice longer than wide, somewhat longer than 3 which is subequal to the pedicel and next longest; funicles 7-8 subequal, somewhat wider than long. Scutellum declivous. Runs to *racinei* Girault but differs in lacking the silvery band of abdomen near base, in bearing the distinctly extruded ovipositor, the reddish cephalic legs, in having funicle

2 longer than 3, the second stripe of fore wing somewhat narrower and more faded caudad, the nonpilose, subglabrous caudo-mesal part of scutum, the declivous scutellum, the much shorter cephalo-mesal triangular raised part of scutum, here scaly, in *racinei* densely shagreened like the scutellum. The head is shagreened, nearly as much as the scutellum. Axillæ shagreened, distinctly separated. Eyes nearly naked. In some specimens, the silvery band of abdomen is present, distinct.

The male has the first two pairs of legs (except coxæ) bright reddish yellow, the wings hyaline (a very obscure ovate spot from apex of stigmal vein), the postmarginal vein shorter, the scutum normal with faint complete parapsidal furrows, the head and thorax grass green, the pedicel and first four funicle joints reddish brown. Antennæ 11-jointed with one transverse, true ring-joint, the first funicle joint twice longer than wide, wider distad, longest, funicles 7-8 subquadrate, larger than the very short pedicel; club solid. Compared with type of *racinei*.

Described from fourteen males, twenty-eight females from an egg-case of a mantid, April 22, 1914 (G. F. Hill).

Habitat: Port Darwin, Northern Territory.

Types: No. *Hy 2879*, Queensland Museum, Brisbane, three females on a tag and male and female antennæ and a female hind leg on a slide with type *aristotelea*.

18. ANASTATUS MAXIMUS new species.

Female:—Length, 4.40 mm. Similar to *blattidifurax* but more robust and the ovipositor is distinctly but shortly extruded and reddish brown. Funicle 1 a little longer than 2 or 3. Tarsi reddish brown. Infuscation of fore wing deep, that at base distinct. Segments 2-4 of abdomen slightly incised at meson of caudal margin. Much more robust than *aristotelea*. Scutellum more densely sculptured than rest of thorax.

Described from one female captured in the forest, September 22, 1914.

Habitat: Capeville (Pentland), Queensland.

Type: No. *Hy 2880*, Queensland Museum, Brisbane, the female in alcohol with type of *Atoposoma unguttatipes* Girault.

DIAGNOSTIC TABLE OF THE AUSTRALIAN SPECIES OF *ANASTATUS* MOTSCHULSKY.

FEMALES.

The wings are perfect and of full length. Compare *Eupelmus multicolor*.

1. Wings with two distinct fuscous cross-stripes; abdomen with a distinct silvery band near base (rarely the second wing stripe is incomplete caudad).

Body varicolored.

Fore wings with two complete cross-stripes. Scape obclavate.

Honey yellow, the head and abdomen metallic; scape dark metallic green at proximal half, the rest together with the pedicel and funicle 1 reddish yellow; funicles 2-5 silvery white; rest of antenna black; an intervening part of ovipositor valves honey yellow; funicle 2 thrice or more longer than wide. See description .. .. *tricolor* Girault.

Fore wings with the second stripe incomplete caudad, the first narrower, one third length of hyaline between the two; scape normal.

Orange yellow; center of vertex, most of scutum, middle of pronotum and the mesoventer and propodeum metallic green; abdomen purple, with a silvery band near base; scape pale; antennæ otherwise black except joints 3-6 of funicle which are silvery white. Fore wing with one cross-stripe and a triangular fuscous area from stigmal vein. See description .. .. *pasteuri* Girault.

Body dark metallic green or purple. Scape normal.

Scape nonmetallic, rufous.

Valves of ovipositor barely extruded, their tips white .. .. *racinei* Girault.
Valves of ovipositor shortly extruded, their tips brownish black .. .. .. *bombax* Girault.

Scape metallic, concolorous. Valves of ovipositor barely exserted.

Funicle 2 plainly longer than 3; tip of ovipositor not white. Hind tibia with two spurs; hyaline cross-band of fore wing plainly narrower than the first cross-stripe .. .. *pipunculi* Perkins.

Funicle 2 nearly the same, the tip of ovipositor white; hind tibial spurs double; hyaline cross-band of fore wing subequal in breadth to the first cross-stripe .. .. *aristotelea* Girault.

Funicle 2 subequal to 3. Tip of ovipositor white. Hind tibia with one spur; hyaline stripe of fore wing very narrow, plainly much shorter (over twice) than first fuscous stripe. Fore wings infuscated practically to tip .. *blattidifurax* Girault; compare *maximus* Girault.

II. Wings infuscated from bend of submarginal vein to apex of postmarginal, the infuscation with two oblique, opposite eye-spots.

Dark metallic purple, the scape rufous, the flagellum and legs concolorous; caudal margins of segments 2-5 of abdomen incised at meson; funicle 2 about two and a half times longer than wide. Tip of ovipositor whitish. Hind tibial spurs double. Caudal margin of segment 2 of abdomen silvery white. Front femur much swollen .. .. *pentatomidivora* Girault.

The same but only segment 2 of abdomen is incised at meson of caudal margin .. .. variety *nonexcisus* Girault.

III. Wings generally infuscated, without eye-spots or two distinct cross-bands.

Body dark metallic.

Fore wings stained from about base of marginal vein to apex.

Scape whitish.

Scape, tip of ovipositor, tips of tibiæ and the tarsi whitish. Stigmal and postmarginal veins subequal; funicle 2 subequal to pedicel. Valves of ovipositor slightly exserted .. .. *nigripurpureus* Girault.

The same but valves of ovipositor extruded somewhat farther and all concolorous .. .. *pax* Girault.

Scape reddish brown. Robust.

Distal third of caudal tibia yellowish white; funicle 2 thrice or more longer than wide, 6 quadrate; valves of ovipositor extruded for a fourth the length of the abdomen, dusky at tip, black at proximal third, rest white. Most of middle tibia brownish. Wings sooty .. .. .. *frederici* Girault.

Fore wings with a dusky subrectangular blotch appended from whole of marginal and postmarginal veins. Scape concolorous.

Tips of tibiæ and tarsi whitish; valves of ovipositor extruded for about a third the length of the abdomen, whitish, black at distal third .. .. .. *splendidus* Girault.

The same but extruded part of valves of ovipositor black at base and tip, the rest whitish, the distal black longer than the proximal .. .. .. *benthami* Girault.

IV. Wings hyaline.

Legs, except coxæ, yellow.

A middle third of the valves of the ovipositor white; funicle 2 thrice longer than wide, 3 and 4 each somewhat shorter than it, distinctly longer than the pedicel .. .. *boussingaulti* Girault.

Femora concolorous.

Abdomen with a silvery band near base.

Valves of ovipositor extruded for a third the length of abdomen, black; pedicel and funicles 1 and 2 white; funicle 2 longest, a little longer than the pedicel; middle tibiæ (except a dusky band below knees) and distal half of other tibiæ, white .. .. *insularis* Girault.

Abdomen wholly concolorous.

Pedicel distinctly longer than any of the funicle joints.

Ovipositor not extruded.

Tarsi brownish; funicle 1 longer than wide, 3 and 4 longest; caudal tibiæ with two spurs. Abdomen depressed .. .. *coleopterorum* Girault.

Ovipositor extruded for a third the length of the abdomen.

Distal half of cephalic and caudal tibiæ, middle femur except upper and lower edges, middle tibiæ and the tarsi reddish brown; valves of ovipositor white centrally .. .. .. *darwini* Girault.

Genus METAPELMA Westwood.

1. METAPELMA WESTWOODI new species.

Female:—Length, 4.25 mm., excluding ovipositor which is black and extruded for a length equal to seven eighths that of abdomen.

Dark æneous green, the fore wings infuscated from near base of stigmal vein nearly to apex, with a brownish stripe across from distal third of submarginal vein, narrower centrally and a longitudinal brownish stripe connecting the two infuscations. Cephalic and middle femora and tibiæ rich yellowish brown, also the cephalic tarsi; all coxæ and the hind legs dark metallic but the proximal fourth of hind tibia silvery white; middle tarsi black except proximal three fourths of first joint which is silvery white; middle tibial spur white; hind femur near base yellowish brown. Eyes only sparsely hairy. Hind tibial spurs double, distinct, the hind tibia and first tarsal joint compressed, very flat but only moderately broad. Scape metallic, dilated ventrad along distal half; pedicel subequal to funicle 1 which is distinctly longer than wide; funicles 2 and 3 elongate, twice the length of 1, subequal, each about five times longer than wide; 4 somewhat longer than 1, 5-8 shortening and widening, 7 quadrate, 8 wider than long; club oval, shorter than funicle 2. Middle tibiæ and femora distinctly longer than those regions of the other legs. The three ridges of scutum acute; axillæ rather narrowly meeting, with an oblique, bisecting ridge; whole body scaly. Postmarginal vein elongate, over thrice the length of the stigmal, a little longer than the marginal. Caudal wings with about twenty lines of discal cilia where widest. Proximal margin of distal infuscation of fore wing triangularly projected proximad at cephalic third. The triangular elevation of cephalic scutum narrow, much longer than wide. Pronotum and face hispid. Antennæ 13-jointed.

From one female taken in jungle, May 2, 1914 (A. P. Dodd).

Habitat: Tweed Heads (Tweed River), New South Wales.

Type: No. *Hy 2881*, Queensland Museum, Brisbane, the female on a tag; head, a hind leg and pair of wings on a slide.

GENUS NEANASTATUS Girault.

Marginal and submarginal veins not differentiated, very long, the stigmal well developed, the postmarginal very long, thrice or more the length of the stigmal. A long oblique hairless line running cephalo-distad toward base of stigmal vein but not reaching it for some distance. Intermediate tibial spurs as long as the tarsi of these legs, stout, spiny, at apex ending in several stout spines. Scutellum with a broad base and a median groove. Antennæ 10-jointed, with one ring-joint, the club 2-jointed. Head subtriangular, only as wide as the greatest width of the thorax, the frons broad, eyes not large, not convergent, the genal sulcus distinct; mandibles tridentate. Antennæ inserted below the eyes. Ovipositor not exserted. Abdomen conic-ovate. Face convex.

1. NEANASTATUS CINCTIVENTRIS Girault. Female. Genotype.

Length, 2.75 to 3.50 mm.

Dark metallic green marked with bright lemon yellow as follows: Base of abdomen encircled with a band just out from base; scutum with a long rectangular area down its center; cephalic legs, intermediate legs except most of coxæ and coxæ of posterior legs; posterior femora and tibiæ and the distal four tarsal joints bluish to black, the distal joints of other tarsi black. Fore wings with a deep smoky subrectangular area under the venation, its middle at the stigmal vein. Eyes with very sparse pubescence. First funicle joint longest, the others shortening, the distal two subequal to each other and to the pedicel. Distal club joint subequal to first funicle joint. Head with dense, rather small thimble punctures. Thorax and abdomen polygonally sculptured. Antenna brownish yellow.

The types were captured by sweeping foliage of jungle growth along the banks of the Mulgrave River, near Gordonvale, March 30, 1913.

Types: No. *Hy 2882*, Queensland Museum, Brisbane, two females on tags (two pins).

The male is about similar to the female; its funicle joints are all somewhat longer than wide, distinctly longer than the pedicel. A male from forest, type locality, March 21, 1913. A rather common species. Also a pair, same place, April.

2. NEANASTATUS DESERTENSIS new species

Female:—Length, 2.50 mm.

Very similar to *aurivertex* Girault but differing in the following particulars: The prepectus is contrasting deep orange yellow; the lateral margins of pronotum are not metallic green but the caudal margin is so yet very lightly, not distinctly; the distal third of caudal femur is not yellow except ventrad but wholly metallic purple; the tip of middle tibiæ, distal part of middle tibial spur and the distal four tarsal joints of middle legs, are metallic purple; caudal knees and tibiæ wholly metallic purple, also caudal coxa at base; distal joint of caudal tarsus purple. Antennæ very hispid.

From one female taken in forest, April 15, 1914 (A. P. Dodd).

Habitat: Cloncurry, Queensland.

Type: No. *Hy 2883*, Queensland Museum, Brisbane, the specimen on a tag.

3. NEANASTATUS AURIFASCIATUS new species.

Female:—Length, 2 mm.

Dark metallic green, the abdomen, propodeum, mesopleurum and most of scutellum metallic purple, the abdomen with a rather broad golden orange band just out from base its caudal margin narrowly silvery white. Wings hyaline. Antennæ and first two pairs of legs honey yellow, the middle coxa mostly concolorous, the cephalic one so at base. Caudal legs wholly purple except trochanters, a minute spot just ventrad of knees and the tarsi which are white. Funicle 1 quadrate, slightly smaller than the pedicel; distal two or three funicle joints wider

than long. The same as the other species otherwise. Tarsi white. Differs from *reymondi* in having clear wings, the orange abdominal band and wholly yellow middle femur. Differs from *punctaticeps* in lacking the cross-groove at base of scutellum and the color of the abdominal band.

From one female taken in forest, April 8, 1914 (A. P. Dodd).

Habitat: Cloncurry, Queensland.

Type: No. *Hy 2884*, Queensland Museum, Brisbane, the female on a tag.

4. NEANASTATUS FLAVIPRONOTUM new species.

Female:—Length, 2 mm.

Dark metallic green, the wings hyaline, the pronotum, tegulæ, mouth and a little less than proximal fourth of abdomen dorsad, golden yellow; also the antenna and first two pairs of legs except intermediate coxæ and intermediate femora slightly at base. Hind legs concolorous, their tarsi and the tibiæ just below knees silvery white. Caudal margin of pronotum concolorous. Scutum and pronotum pilose, scutellum much less so. Occiput finely, circularly striate. Head densely punctate.

From one female caught by sweeping in forest, March 3, 1912.

Habitat: Thursday Island, Torres Strait.

Type: No. *Hy 2885*, Queensland Museum, Brisbane, the female on a tag.

5. NEANASTATUS PUNCTATICEPS new species.

Female:—Length, 1.85 mm.

Metallic grass green, the scutellum, propodeum and abdomen dark purplish, the abdomen with a silvery white band around base. Wings hyaline. Cephalic and middle legs silvery white, the hind legs metallic purple, their tarsi white. Antennæ yellow-brown, the distal three funicle joints wider than long, joints 1 and 2 subquadrate, shorter than the pedicel, the latter short; scape clavate; club conic-ovate. Head rather coarsely punctuate, the scrobes absent but the scapes fit into an Ω-shaped facial impression which is obtuse. Thorax very finely scaly, subpilose. Middle tibial spur armed with black teeth toward apex. Generic characters present.*

From one female taken August 9, 1913 by sweeping in forest.

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 2886*, Queensland Museum, Brisbane, the specimen on a tag; legs and antenna on a slide.

This is the only species of the genus with a distinct cross-groove at base of scutellum.

6. NEANASTATUS AURIVERTEX new species.

Female:—Length, 2 mm.

Dark metallic purple, the vertex orange yellow, rest of head, pronotum except the lateral margins (lateral aspect), prepectus, propleura, proventer, middle legs, coxæ, fore legs, hind trochanters, hind femora distad, hind tibiæ proximad and the tarsi, bright lemon yellow. Head uniformly, rather coarsely punctate. A narrow yellowish band just out from base of abdomen. Occiput purplish across the middle; antennæ orange yellow; pedicel shorter than funicle 1 which is longest, somewhat longer than wide; funicle 5 subquadrate, 3 and 4 a little longer than wide. First club joint the shorter. Ring-joint distinct. Hind coxa purplish above at base. Thorax scaly, with sparse pubescence on the long scutum, the scutellum with the median groove. Structurally like the genotype. Middle tibiæ not armed with black teeth beneath. One mandible bidentate, the other with an inner angulation which does not form a distinct third tooth.

* As always unless particularly mentioned.

From one female taken by sweeping jungle growth along a forest streamlet, June 29, 1913.

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 2887,* Queensland Museum, Brisbane, the female on a tag; head on a slide.

7. NEANASTATUS PURPUREISCUTELLUM new species.

Female:—Length, 1.65 mm.

Golden yellow, the abdomen except a broad white band around base which occupies over proximal third, the scutellum, the propodeum, the mesopleurum (except cephalic margin), mesoventer and the hind legs except coxæ and tibiæ, dark metallic purple. The proximal silvery white base of abdomen with a narrow band of metallic purple at about middle. (Meson of scutum broadly from about cephalic fifth to caudal margin obscurely purplish, the broad mesal band dilating considerably caudad on each side to the lateral margins; this marking may be due to fading.) Thorax rather well-clothed with blackish pubescence; abdomen finely scaly. Head punctate as in the other species. Abdomen at tip above silvery white, the caudal margins of the segments straight. Hind tibial spurs double, one very small, the other large, both purple. Mandibles tridentate. Funicle 1 somewhat longer than wide, longer than the pedicel, 5 subquadrate, subequal to the pedicel.

From one female taken by sweeping jungle along a road, February 23, 1912.

Habitat: Rossville (Cooktown), Queensland.

Type: No. *Hy 2888,* Queensland Museum, Brisbane, the female on a tag; head and hind tibiæ on a slide.

8. NEANASTATUS FLAVIMESOPLEURUM new species.

Female:—Length, 2.75 mm.

Deep orange yellow, the fore wing a little stained under the marginal vein; scutellum except lateral and distal margins, abdomen except a broad yellowish white band around base, dorsal edge of caudal femora and all of caudal tibiæ except tip, dark metallic purple. Funicle 1 one and a half times longer than wide, nearly twice the length of the pedicel, longest of the flagellum. Otherwise as in *purpureiscutellum.*

From one female caught by sweeping in jungle, July 28, 1913.

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 2889,* Queensland Museum, Brisbane, the female on a tag.

A second female from the same place, April 2, 1914.

9. NEANASTATUS INCONSPICUUS new species.

Female:—Length, 1.90 mm.

Differs from *punctaticeps* in lacking the cross-suture on scutellum and the first two pairs of coxæ are concolorous, the cephalic femora concolorous at base, the silvery band of abdomen very narrow. The middle legs are pale brown. From *reymondi* in the color of the legs and in having the hind tibiæ white at extreme base dorsad and the distal four tarsal joints of middle legs purple as in *punctaticeps.* From *aurifasciatus* in the coloration of the first two pairs of legs. Funicle 1 a little longer than wide; scape and pedicel dark purple, rest of antennæ dull yellow.

From one female caught in forest, May 15, 1914 (A. P. Dodd).

Habitat: Chindera (Tweed River), New South Wales.

Type: No. *Hy 2890,* Queensland Museum, Brisbane, the specimen on a tag with type *punctaticeps.*

10. NEANASTATUS TRINOTATUS new species.

Female:—Length, 2.70 mm.

Deep orange yellow, the lower face lighter, the wings hyaline; a conspicuous beehive-shaped marking on over caudal third of the mesopleurum and a moderate sized cross-stripe on dorsal abdomen a short distance before tip, jet black; these markings conspicuously contrasting. Two minute black dots on hind coxa above at base and on base of abdomen a narrow black cross-stripe and at about middle two minute black dots at each margin (dorsal aspect) in an oblique line. Sculpture as in *maximicorpus*. Thorax with black pubescence which is moderate. Funicle 1 longest, a little longer than wide. This species resembles in its gross marking *Leptomastix auraticorpus* Girault.

From one female taken March 5, 1914, sweeping jungle (A. P. Dodd).

Habitat: Cooktown, Queensland.

Type: No. *Hy 2891*, Queensland Museum, Brisbane, the female on a tag.

11. NEANASTATUS REYMONDI new species.

Female:—Length, 2.20 mm.

Nearly similar to *punctaticeps* but very dark æneous green, the head æneous coppery; the middle femur is dark greenish proximad. Differing specifically as follows: Funicle 1 and the pedicel are a little longer than wide; the fore wing is uniformly stained and the discal cilia proximad of the oblique hairless line is somewhat coarser (about 11 lines in each), the venation is darker; there is a distinct carina between bases of antennæ and no impressions for the scape while at base of scutellum there is no distinct cross-groove reaching from axilla to axilla as in *punctaticeps*.

Described from one female caught in forest, December 25, 1912.

Habitat: Capeville (Pentland), Queensland.

Type: No. *Hy 2892*, Queensland Museum, Brisbane, the specimen on a tag; wings and an antenna on a slide with slide type of *punctaticeps* Girault.

Dedicated to Paul Dubois Reymond.

A common species on certain trees in the bed of Cape River (September).

12. NEANASTATUS MAXIMICORPUS new species.

Female: Length, 3 mm.

Very dark greenish blue, the wings hyaline; head except a metallic stripe across upper occiput, antennæ, pronotum mesad broadly at cephalic half, propodeum, distal margin of scutellum, hind femur and hind tibia, orange yellow; propleurum just above cephalic coxæ (the ventral border of propleurum rather broadly), first two pairs of legs and distal two thirds of hind coxa, bright lemon yellow; front femora and tibiæ more or less orange; caudal margin of segment 2 of abdomen very narrowly silvery white, the broad whitish band around base of the abdomen thus absent. Thorax and abdomen finely polygonally scaly, the thorax dorsad pilose. Second segment of abdomen at meson of caudal margin very slightly excised, the other segments practically straight there. Head densely, finely punctate. Funicle 1 longest, somewhat longer than wide.

From one female, taken March 6, 1914 in jungle (A. P. Dodd).

Habitat: Cooktown, Queensland.

Type: No. *Hy 2893*, Queensland Museum, Brisbane, the female on a tag.

TABLE TO THE SPECIES OF *NEANASTATUS* GIRAULT.

Body, excluding appendages, wholly metallic green (but the abdomen with a silvery or yellowish band near base).

Scutellum with a transverse groove at base. Band of abdomen silvery.

Wings hyaline; cephalic and middle legs silvery white; joints 1-2 of funicle subquadrate, shorter than the pedicel. Grass green .. .. *punctaticeps* Girault.

Scutellum without such a groove. Dark metallic green.

Wings uniformly, very lightly stained; band of abdomen silvery; middle femur concolorous at base .. .. *reymondi* Girault.

Wings hyaline; band of abdomen golden orange. Middle femur all yellow .. .. *aurifasciatus* Girault.

Compare *inconspicuus* Girault.

Body excluding appendages, dark metallic green but marked with yellow. Abdomen with a silvery band more or less distinct.

Head concolorous.

Scutum with a long, rectangular yellow area down its center; cephalic and middle legs yellow except middle coxa; hind legs concolorous except tarsi. Fore wings with a rectangular smoky area against venation and with its middle at stigmal vein. Band of abdomen lemon yellow .. .. *cinctiventris* Girault.

Head more or less marked with yellow. Wings hyaline.

Head nearly entirely yellow (excepting a stripe across upper or middle occiput).

Pronotum mesad broadly at cephalic half, propodeum, distal margin of scutellum and hind femora and tibiæ orange yellow; part of propleurum and first two pairs of legs, lemon yellow. Caudal margin of segment 2 of abdomen very narrowly silvery white. Funicle 1 longer than wide .. .. .. *maximicorpus* Girault.

Vertex orange yellow; rest of head, prepectus, pronotum except lateral margins, propleura, proventer, coxæ, middle legs, tarsi, fore legs, hind femur distad, hind tibiæ proximad, lemon yellow .. .. .. *aurivertex* Girault.

The same but the pronotum with only the caudal margin narrowly metallic, the caudal femur all metallic and distal four joints of middle tarsi purple .. *desertensis* Girault.

Head nearly all green, the mouth alone yellow.

Pronotum, tegulæ and a little less than proximal fourth of abdomen dorsad, golden yellow; first two pairs of legs yellow except middle coxa and middle femur a little at base. Hind tibia just below knee white .. .. .. *flavipronotum* Girault.

Body, excluding appendages, yellow marked with black or metallic.

Abdomen metallic except the silvery band near base.

Golden yellow; scutellum, propodeum, mesopleurum except cephalic margin, mesoventer and hind legs except coxæ and distal third of femur ventrad, dark metallic purple. Wings hyaline .. .. *purpureiscutellum* Girault.

Orange yellow; scutellum except lateral and distal margins, dorsal edge of caudal femur and all of caudal tibiæ except tip, purple. Funicle 1 nearly twice the length of the pedicel. Wings a little stained under the marginal vein .. .. *flavimesopleurum* Girault.

Abdomen mostly yellow.

Deep orange yellow, the wings hyaline; caudal third of mesopleurum and a stripe across dorsal abdomen a short distance before tip, jet black. Two dots on hind coxa dorsad at base and a pair of marginal dots on abdomen at about middle .. .. *trinotatus* Girault.

MESEUSANDALUM new genus.

Female:—Form elongate, the abdomen long and conical, distinctly longer than the rest of the body, the ovipositor exserted distinctly but shortly. In Ashmead's (1904) table of genera running to *Eusandalum* Ratzburg (the middle tarsi are armed) but the antennæ are 11-jointed with a ring-joint and a 2-jointed club, the flagellum filiform, the club not distinctly differentiated. Legs slender, the hind tibia with a single spur. Second abdominal segment very slightly incised at meson of caudal margin, others entire, segment 2 a little the longest, 3 distinctly the shortest, 7 nearly as long as 2. Scutum with two longitudinal impressions, incomplete from caudad. Axillæ widely separated, their inner margins regularly curved. Stigmal vein subsessile, the postmarginal short but over twice the length of the stigmal, the marginal vein moderately short, distinctly shorter than the submarginal, much longer than the postmarginal. Face almost carinated as in the Dirrhinini. Genal suture distinct. Strigil present. Lateral ocelli at extreme cephalo-lateral angles of vertex, barely separated from the eyes, the latter naked. See the third species.

1. MESEUSANDALUM CYANEIVENTRIS new species. Genotype.

Female:—Length, 4.20 mm., including the ovipositor.

Dark metallic green, the scutellum, axillæ and abdomen coppery or bronze, the venter of abdomen blue. Wings hyaline. Legs and antennæ concolorous except knees and proximal four tarsal joints which are white. Pedicel short, a little shorter than distal club joint, which is next shortest of the flagellum; ring-joint large; funicle 1 long and slender, 2 and 3 subequal, a little shorter than 1, somewhat over thrice longer than wide; others gradually shortening, the distal club joint ovate, not much longer than wide. First tarsal joint of middle legs not half the length of the same joint of hind legs, which is slender. Scrobes glabrous. Head and thorax densely, finely scaly, the scutellum more finely so, nearly longitudinally lineolated. Propodeum without carinæ, delicately scaly. Pronotum with transverse lineolations.

From one female taken January 7, 1914 in forest.

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 2894*, Queensland Museum, Brisbane, the specimen on a tag.

2. MESEUSANDALUM STYLATUS new species.

Female:—Length, 6.75 mm., excluding the ovipositor which is extruded for a length equal to that of the abdomen or a little more.

Differs from the preceding in having the abdominal stylus nearly as long as the extruded portion of ovipositor, the hind tibia bears two spurs, segment 2 of abdomen has a slight incision at caudal meson and is as long as or a little longer than 3, the stigmal and postmarginal veins are a little longer, the color is purplish, the fore wings stained more especially longitudinally along the middle out to apex of venation, the tibiæ are reddish brown except cephalic ones just below knees, the postmarginal vein is over twice the length of the stigmal, the tarsi brown; head and thorax densely finely punctate including a contrasting semicircular area at caudal meson of propodeum and which is more than half the length of that region at the meson; this area is deeply sutured from the transverse, subglabrous mesal portion of the propodeum and appears to belong to the abdomen. Spiracle large, round, with a curved sulcus just mesad of it; no carinæ on propodeum. Segments 2 and 3 of abdomen glabrous, the following transversely, finely wrinkled, the last (7) and the stylus punctate like the thorax, the stylus with a sharp median carina. Caudal margin of pronotum conically produced distad, subacute at apex. Funicle 1 as long as the scape, four times the length of the distal antennal joint which is much shorter than the joint preceding it.

From one female caught on a tree trunk, 2-9-13 (H. Hacker).

Habitat: Enoggera (Brisbane), Queensland.

Type: No. *Hy 2895*, Queensland Museum, Brisbane, one female minutien-mounted; middle and hind legs and an antenna on a slide.

3. MESEUSANDALUM COMPRESSISCAPUS new species.

Female:—Length, 3.10 mm. including ovipositor.

Differs from *cyaneiventris* in being somewhat smaller, the ovipositor extruded somewhat less (the stylus as long as it in both species), *the scape is distinctly compressed* (uniformly expanded ventrad its entire length, the expansion straight, not convex); the ring-joint is wider, the flagellum more slender, the club less differentiated, the pedicel somewhat shorter; the postmarginal vein is somewhat longer, the venation very pale, the scutellum a little more finely lined longitudinally. Hind tibial spur single.

Described from one female.

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 2896*, Queensland Museum, Brisbane, the specimen on a tag with type *cyaneiventris* and an antenna and hind tibia on a slide with an antenna of a female *cyaneiventris*.

This genus is perhaps *Eusandalum* but the exceptional antennæ are not mentioned in the various descriptions of that genus and it is not the business of systematic biology to guess.

Genus SOLINDINELLEUS Girault.

Head normal, from cephalic aspect rounded, the genal sulcus distinct, the eyes rounded and bearing short, scattered, inconspicuous hairs; the antennæ inserted slightly below ventral ends of eyes, their scrobes short but distinct. Antennæ 10-jointed, subclavate, one ring-joint, the scape short, the pedicel small, not half the size of the first funicle joint which is longest of the funicle; club 2-jointed, ovate. Lateral ocelli not touching the eye margins. Scutellum very short, triangular, simple but with a median sulcus, the axillæ very small, very widely separated, obscure. Abdomen sessile, so much compressed as to be merely a line from dorsal aspect, as long as the thorax, the ovipositor not exserted. Scutum impressed, the furrows complete. Middle tibial spur long and stout, two thirds the length of the middle tarsus, the proximal joint of the latter ventrad with dense black teeth; these teeth are also on succeeding joints and around the base of the tibial spur but less dense. Cephalic femur lightly swollen, unarmed but with a line of solitary, stiff hairs. Hind legs normal, the spur single. Wings hyaline, the postmarginal vein long, subequal to the marginal and four or more times longer than the stigmal which is well developed. Marginal fringes short. Body metallic, sculptured, varicolored. Corrected description.

Like *Neanastatus* excluding the shape of the abdomen.

1. SOLINDINELLEUS PULCHRICORPUS Girault. Female. Genotype.

Length, 2.79 mm. Dark metallic greenish, the long scutal impression and the scutellum distad coppery. Marked with bright lemon yellow as follows: The head except center of vertex between the lateral ocelli and a broad stripe from side to side (eye to eye) of the occiput; the legs except proximal half of caudal coxæ, proximal two thirds of caudal femora, all of caudal tibiæ (except at each end), the dusky distal tarsal joint and the tip of the middle tibial spur; proximal third of tegulæ; and a whitish band around most of the caudal margin of pronotum (dorsal aspect). An orange yellow, transverse-elliptical spot on propodeum, each side of meson, as seen from dorsal aspect just on each side of the apex of scutellum. The latter bears a thin clump of long white hairs on each side before apex. Antennæ brownish, the scape yellow ventrad, the pedicel the same at tip. Head and scutum with irregular, more or less obscure punctures, the mesonotum densely shagreened or reticulated. Venation dusky. A more or less obscure yellowish stripe near base of abdomen, lateral aspect. The species resembles *Neanastatus maximicorpus*. There is also a rather large, triangular lemon yellow spot just cephalad of mesopleurum. Type re-examined.

Habitat: Brisbane, Queensland. Associated with galls. July.

Type: No. *Hy 2897*, Queensland Museum, Brisbane, a female on a tag.

NEOCALOSOTER new genus of Girault and A. P. Dodd.

Female:—Head not much excavated, the frons somewhat concave, the antennal scrobes distinct, the vertex rather thin. Eyes moderately large, bare; ocelli in an equilateral triangle, the lateral ones rather farther from the eye margins than from the median ocellus. Antennæ inserted at the mouth border; 11-jointed, no ring-joint, the club 3-jointed; similar to the male antennæ of the genus *Scelio* Latreille; scape not distinctly swollen nor very long; pedicel a little longer than first funicle joint, which is distinctly longer than wide; funicles 2-6 shortening all somewhat wider than long, the sixth distinctly so. Mandibles 4-dentate, the teeth small. Legs all normal; middle tarsi without strong teeth ventrad; posterior tibiæ with two apical spurs. Pronotum longer than the scutum; parapsidal furrows deep and distinct. Axillæ rather widely separated. Propodeum with many irregular faint cross-carinæ, also rather faint median and lateral carinæ. Scutellum with a delicate cross-suture before apex. Abdomen barely as long as the thorax; conic-ovate, the ovipositor exserted for a length equal to two thirds that of the abdomen, second segment deeply incised at meson of caudal margin, occupying over one third of the surface; caudal margins of remaining segments straight; third scarcely one fourth as long as second; fourth and fifth subequal, together as long as second. Wings perfect; marginal vein not much shorter than submarginal; stigmal vein short and curved; postmarginal barely as long as the stigmal.

1. NEOCALOSOTER PULCHRIPENNIS new species. Genotype.

Female:—Length, 3.25 mm., excluding the ovipositor.

Black; most of lower face, propleura and cephalic margin of pronotum, venter of thorax more or less, basal two thirds of ovipositor and the antennæ (except the scape), reddish brown; femora and tibiæ somewhat suffused with brown; tarsi and antennal scape bright golden yellow; abdomen steel blue. Head (except lower portion of face), pronotum, scutum, scutellum (except apex) and second abdominal segment smooth and shining. Rest of abdomen, lower portion of face and apex of scutellum, very finely scaly. Fore wings hyaline, with an irregular smoky transverse band across wing at joining of marginal and submarginal veins and another at apex of marginal vein and involving the stigmal vein, the second band much the wider.

Described from one female caught by Mr. F. P. Dodd in December, 1913.

Habitat: Northern Queensland (Kuranda, near Cairns).

Type: No. *Hy 2898,* Queensland Museum, Brisbane, a female on a tag, the head and a hind leg on a slide.

Genus PAROODERELLA Girault.

Synonym: *Parasolindenia* Girault.

The same as *Anastatus* but the wings mere scales, absent or greatly reduced.

1. PAROODERELLA APTERA Girault. Female. Genotype.

Length, 3.25 mm.

Very dark metallic green, nearly black; base of abdomen with a silvery white stripe across it above, narrower mesad, broader beneath; distal four antennal joints white; tarsi and knees yellowish; scape brownish. First funicle joint longest, longer than pedicel, funicles 2 and 3 nearly as long as 1, subequal. Mesoscutum punctate. Hind tibiæ with one spur. Front femur beneath emarginate near apex. Wingless.

Habitat: Cairns, Queensland.

Type: No. *I. 1271,* South Australian Museum, Adelaide.

2. **PAROODERELLA HEMIPTERA** (Girault). Female. Genotype of *Parasolindenia* Girault.

Length, 3.50 mm.

Head and abdomen dark metallic green, the thorax reddish, the legs concolorous with it; a white band across base of abdomen; proximal half of antenna yellowish white (scape, pedicel, ring-joint and first three funicle joints, 3 suffused with dusky), the rest black. Fore wings fuscous and hispid from base of marginal vein to apex but interrupted more than half way to the apex by a central, triangular naked and hyaline spot, which extends nearly to margins from opposite sides. Funicle 1 longest but yet subequal to 3, the following shortening, the club shorter than scape. Head with a scaly sculpture and also the thorax and abdomen but less rough. Posterior wings hyaline. Marginal vein long, rather broad, the stigmal very short, the postmarginal nearly absent. Fore wing densely hispid except in places.

Habitat: Cairns, Queensland.

Type: No. *I. 1275*, South Australian Museum, Adelaide.

3. PAROODERELLA MANCA new species.

Female:—Length, 2.50 mm., exclusive of ovipositor which is extruded for a length equal to a fourth that of the abdomen.

Mahogany brown, wingless, the head and cephalic coxæ dark metallic purple, the abdomen lustrous black, also the hind legs; legs otherwise brown (including caudal tarsi) washed with a little metallic purple. Scape brown; rest of antenna black. Valves of ovipositor brownish, darker at base. Thorax washed here and there with metallic purplish. A broad silvery band around abdomen just out from base. Wings scale-like, not twice longer than wide, brownish, distad truncate, without marginal cilia and only with a submarginal vein which runs to apex; wings not reaching abdomen, their discal ciliation confined to apex. Funicle 1 like a ring-joint, 2 longest, nearly twice longer than wide, 3 somewhat shorter, a little longer than the pedicel; others shortening and broadening, 5 and 6 subquadrate, 8 distinctly wider than long. Hind tibial spur single. Mesonotal ridges acute. Eyes nearly bare. Scutum with a median carina. Head and thorax subglabrous, the scutellum longitudinally lineolated. Segments 2 and 3 of abdomen obtusely incised at meson caudad, the caudal margins of the other segments straight, caudad of segment 3, the surface scaly. Axillæ distinctly separated a short distance, longest cephalo-caudad.

From one female taken May 19, 1914 by sweeping forest.

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 2899*, Queensland Museum, Brisbane, the specimen on a tag; caudal leg, antenna and a wing on a slide.

4. PAROODERELLA SEMIPUTATA new species.

Similar in all respects to *manca* but the valves of the ovipositor are white, dark at extreme tip and base, the thorax and legs are wholly metallic purple, the band over base of abdomen is obscure or absent, the frons is broader (in *manca* moderately narrow), the pedicel is somewhat longer, subequal to funicle 2 which is subequal to 3 and 4, the scutum lacks the median carina (in both species the lateral ridges of scutum are sharp carinæ), the head is plainly scaly, the mesopleurum more coarsely longitudinally lined. Wings apparently the same but hyaline. Caudal margins of abdominal segments not seen. Tarsi white. Abdomen scaly. Scape dusky at tip dorsad.

From one female taken by sweeping jungle along a forest streamlet, June 29, 1913.

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 2900*, Queensland Museum, Brisbane, the female on a tag with type *manca*; portion of antenna on slide with type *manca*.

5. PAROODERELLA SEMITECTA new species.

Female:—Of the same stature and so forth as *semiputata* but differing in having the scape concolorous, valves of ovipositor not extruded, brownish at tip, the silvery white band of the abdomen distinct, the very small wings longer, fuscous with a rather broad central hyaline cross-stripe as long as the proximal fuscous part, longer than the distal fuscous portion (in *semiputata* the minute wings are mostly uncolored, fuscous at base). Otherwise about the same; antennal segmentation the same.

From one female taken November 8, 1913 by sweeping forest.

Habitat: Stewart's Creek (Townsville), Queensland.

Type: No. *Hy 2901*, Queensland Museum, Brisbane, the female on a tag with type *flavithorax*.

A second female at Pentland, Queensland, forest in early September. The caudal margins of abdominal segments are not incised.

6. PAROODERELLA FLAVITHORAX new species of Girault and A. P. Dodd.

Female:—Length, 3 mm.

Head dark metallic green, the thorax, legs, scape, pedicel, ring-joint and first three funicle joints, honey yellow; rest of antenna black; abdomen dark purple, with a broad, silvery white band around base. Wings vestigial but perfect, reaching to end of proximal third of the abdomen, with a rather broad band of fuscous across apical edge and another much broader one a short distance proximad from distal part of submarginal and proximal two thirds of marginal veins. Scutellum densely scaly, the scutum polished, the axillæ scaly, the head less so. Caudal margin of abdominal segments slightly incised at meson, the abdomen reticulated, the third segment smoother. Eyes practically naked. Antennæ 13-jointed, with one large ring-joint, the club long, 3-jointed; pedicel subequal to funicle 3 which is longest of the funicle, 1 slightly shorter, 2 a little shorter than 1 which is subequal to 4, the distal joint slightly longer than wide. Hind tibial spurs double, much unequal, the first tarsal joint long and slender.

Male:—Not known.

Described from one female captured by sweeping in jungle, November 15, 1913 (A.P.D.).

Habitat: Harvey's Creek (Cairns), Queensland.

Type: No. *Hy 2902*, Queensland Museum, Brisbane, the above specimen on a tag.

Genus CERAMBYCOBIUS Ashmead.

1. CERAMBYCOBIUS PAX Girault. Female.

Length, 4 mm., exclusive of the long ovipositor which is curved downward and is a little longer than the abdomen.

Metallic green, abdomen and scutellum purple, ovipositor brown, its sheaths black; antennæ dark purple; tibiæ brown except above, tarsi brown. Fore wings deeply infuscated, the fumation divided through the middle by a clear line. Postmarginal vein nearly twice the length of the stigmal. Posterior tibiæ with one spur. Face deeply excavated above antennæ, the excavation smooth and shining, the cephalic ocellus distant from it, the lateral ocelli closer to cephalic one than to eye margins; before the cephalic ocellus a subquadrate, smooth depression and a fovea behind each lateral ocellus; vertex rather coarsely punctate; eyes with barely perceptible hairs, practically naked. Body with sculpture like that of *Tetrastichus*. Axillæ just touching inwardly. Scape extending far beyond the vertex, foliaceously dilated or compressed but not convexly, the foliation uniform and distinct; first funicle joint shorter than the pedicel, not much longer than wide, second and third joints longest, subequal, longer

than the pedicel, the other joints shortening but all longer than wide. Antennæ 13-jointed, club 3-jointed, no ring-joint. Antennæ inserted near the middle of the face. Head wider than long. Valves of ovipositor densely, shortly feathery, straight. Incisions of abdominal segments small, inconspicuous, the abdomen cylindrical, a little longer than the thorax. Corrected description.

Habitat: Kuranda, Queensland. Jungle, November 4, 1911.

Type: No. *Hy 2903*, Queensland Museum, Brisbane, the above female on a tag, the legs and antennæ on a slide.

SUBFAMILY TANEOSTIGMINÆ.

This subfamily is distinguished from the Aphelininæ by usually bearing a postmarginal vein and usually the marginal vein is much reduced, the middle tibial spur stout, the parapsidal furrows variable, curved off laterad and sometimes meeting before apex. The mesopleurum is always entire and convex and this is the characteristic of the group.

TANEOSTIGMOMYIA new genus.

Characterized by the 11-jointed antennæ, the club solid and well defined, the scape short, slightly convexed beneath or slightly compressed, the funicle joints all transverse-linear, the first two like ring-joints, the third a little less like 1 being wider, the others wider and of equal width. Pedicel somewhat longer than wide at apex. Parapsidal furrows rather widely separated caudad, meeting scutellum just mesad of the mesal ends of the axillæ. Mandibles tridentate. Hind tibial spur single. Axillæ rather widely separated. Thorax clothed with scattered, short, stiff, black setæ. Marginal vein of moderate length, not long, a little longer than or subequal to the slender stigmal and postmarginal veins.

1. TANEOSTIGMOMYIA SPENCERI new species. Female. Genotype.

Length, 0.82 mm.

Lemon yellow, the scutum and parapsides orange yellow, the appendages concolorous, the wings hyaline; three distinct (and a fourth and fifth less distinct, proximad and distad of them respectively) black stripes across the abdomen proximad of middle. Cephalic and caudal (centrally) margins of propodeum and dorsal thoracic sutures black. A fuscous, oblique spot across the cephalic margin of each axilla. Fore wings densely ciliate, the marginal fringes short. Valves of ovipositor slightly exserted, black. Club as long as the scape.

Habitat: Kuranda, Queensland. Forest, September 12, 1913 (A. P. Dodd).

Type: No. *Hy 2904*, Queensland Museum, Brisbane, the female on a tag; hind leg and the head on a slide.

TANEOSTIGMOIDELLA new genus.

Somewhat like *Taneostigmodes* Ashmead but the antennæ 9-jointed with one very short ring-joint, the club 3-jointed, the three funicle joints much longer than wide, the first distinctly more than twice longer than wide. Scape greatly, foliaceously dilated ventrad.* Mandibles bidentate, the second tooth broadly truncate at apex. Parapsidal furrows widely separated caudad. Axillæ also well separated, well advanced into the parapsides, the latter very short, curved. Scutellum with a thin, transverse suture near its distal margin. Marginal vein as long as the submarginal, the stigmal very short but longer than the extremely short postmarginal. Abdomen flat above, conic-ovate, the ovipositor barely exserted.

1. TANEOSTIGMOIDELLA NYMPHA new species. Female. Genotype.

Length, 1.35 mm.

Pale honey yellow, the abdomen black but concolorous along the lateral aspect and with a narrow honey yellow stripe across out from base, this stripe interrupted at meson by the

* Convexly so.

black. Axillæ deeper in color; legs pale straw yellow; transverse suture of scutellum, scape, pronotum and flagellum black. Wings hyaline. Scutum with dense, stiff black pubescence, the scutellum with six long black hairs. Thorax scaly, non-metallic. Funicles 2 and 3 subequal, distinctly longer than the pedicel; joints 1 and 2 of the club subequal, longer than wide. Scape silvery white at extreme tip.

Habitat: Seymour (Ingham), Queensland. Jungle, February, 1913.

Type: No. *Hy 2905,* Queensland Museum, Brisbane, the female on a tag, the head on a slide.

A second female was taken in jungle at Gordonvale, Queensland, June 4, 1913.

2. TANEOSTIGMOIDELLA MIXTA new species. Female.

Length, 0.80 mm. Like the genotype structurally. Orange yellow; abdomen black; propodeum, scape, except the black ventral margin of the foliation, pedicel, funicle 1 and the whole of one side of the other two funicle joints, the distal two thirds of the distal club joint and the legs, silvery white. Tip of abdomen rather broadly, two triangular or cuneate spots on the lateral margins (dorsad) of proximal half, a large round area with a black dot in its middle at distal third laterad, of abdomen, also silvery white. Antennæ otherwise black. Fore wings obscurely infuscated centrally. Scape with an oblique black stripe across it from the black ventral margin. Joint 1 of funicle not much longer than its width, the other two each a little wider than long; antennæ 9-jointed, one ring-joint.

Habitat: Townsville, Queensland. Associated with ornamental plants (rubber), July 11, 1912.

Type: No. *Hy 2906,* Queensland Museum, Brisbane, the female on a slide.

3. TANEOSTIGMOIDELLA ARGENTISCUTELLUM new species.

Female:—Length, 1.25 mm., excluding ovipositor.

Silvery white; face and meson of pronotum, thoracic sutures very narrowly, the sclerite between scutellum and postscutellum, propodeal spiracle, thorax laterad of postscutellum dorsad, abdomen except lateral aspect and antennæ except scape at base and at apex dorsad, jet black. Caudal tibiæ dusky just below knee. A broad stripe across middle occiput (broken centrally) and a blotch on each side above it around edge of cheeks, also black. Vertex, scutum, parapsides and axillæ deep orange yellow. Wings hyaline. Scutum with dense black, stiff but inclinate pubescence. Thorax densely shagreened, the propodeum with a median ridge, delicately scaly, its caudal edge black. Scutellum with only about six black setæ in pairs, the caudal pair largest, the sclerite suffused with yellow. Parapsides narrow, boomerang-shaped. Valves of ovipositor slightly extruded, black. Mandibles bidentate, the second tooth broadly truncate. Funicles 2-3 subequal, somewhat longer than wide, each somewhat shorter than 1, slightly longer than the pedicel which is subequal to club 1. Scape greatly dilated. Ring-joint distinct. Caudal wings with about nine lines of discal cilia. Hind tibial spurs double. Abdomen purplish.

From one female caught in jungle, July 30, 1914 (A. P. Dodd).

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 2909,* Queensland Museum, Brisbane, the specimen on a tag; head and a hind leg with slide type of *Zarhopaloides axillaris.*

EUTRICHOSOMELLA new genus.

Like *Taneostigmoidella* Girault but the club solid, the face inflexed, the eyes strongly convergent at dorsal edge of the face, the antennæ inserted farther ventrad being at the mouth border, the scape slender. Antennæ 7-jointed with one short ring-joint. Mandibles with two minute teeth, the second tooth followed by a broad truncated piece. Parapsidal furrows

delicate. Scutellum finely longitudinally striated, without an apparent cross-suture near apex. Fore wings quite as in *Aphelinus*; infuscated. Scutellum long. Like *Aphelinus* but the eyes convergent, the face inflexed, the antennæ with a ring-joint, the middle tibial spur stout.

1. EUTRICHOSOMELLA ALBICLAVA new species. Female. Genotype.

Length, 0.80 mm. Honey yellow, the scutellum and abdomen orange yellow; face of pronotum, mesopleura, a stripe across base of abdomen and another across at distal three fourths, dusky. Fore wings stained under the marginal vein, the stain accented at apex of submarginal and stigmal veins. Thorax finely scaly. Discal cilia proximad of the oblique hairless line twice coarser than the main ciliation, about from 7 to 8 lines. Scape, pedicel, funicle 1 and the legs orange yellow; club white, rest of antennæ yellowish white. Funicle 1 shortest, a little wider than long, 2 and 3 subequal, each a little longer than wide. Pedicel long, two thirds the length of the funicle.

Habitat: Gordonvale (Cairns) and Cooktown, Queensland. Jungle, May 8, 1913 (A. P. Dodd) at Gordonvale (type).

Type: No. *Hy 2907*, Queensland Museum, Brisbane, the specimen on a tag, the head on a slide.

2. EUTRICHOSOMELLA MULTIFASCIATA new species.

Female:—Length, 1.10 mm.

Very similar to *albiclava* Girault but differing in the following particulars: The pedicel is distinctly longer, subelongate; the funicle joints are longer, 3 a little longer than 2; the caudal pair of the four bristles on margin of scutum are minute, not large, coarse and equal to the cephalic pair as in the genotype; the cephalic pair of bristles on scutum are smaller; the disc of scutum is naked, not with a half dozen or so scattered setæ; the bristle on each axilla and the four on scutellum are all smaller; the scutellum is densely polygonally reticulated; the axillæ meet inwardly, not rather widely separated; the abdomen bears about five cross-stripes of black; the fore wings are more uniformly infuscated, the infuscation only accented proximad of the hairless line at base of marginal vein and there rather indefinitely; the cilia proximad of the hairless line are finer and there are about eleven lines (only about six in the genotype); and the middle tibiæ are fuscous except at tips. The funicle is wholly white in both species, the hind tibiæ fuscous below knees. The same otherwise.

General color pale yellow. Cross-stripes on abdomen commencing some distance out from base.

From one female captured from a window, December 14, 1912.

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 2908*, Queensland Museum, Brisbane, the above specimen on a slide.

3. EUTRICHOSOMELLA BLATTOPHAGA new species.

Female:—Length, 1.15 mm.

Very similar to *albiclava* Girault but not marked at all with black and the infuscation under the marginal vein of fore wing is very faint and uniform. Sides and venter of thorax lemon yellow. Only the abdomen and vertex is orange yellow. Cephalic femur swollen. Abdomen squarely truncate at apex.

From many specimens reared with *Blatticida ashmeadi* from native blattid eggs, February (A. P. Dodd). Jungle.

Habitat: Babinda, Queensland.

Type: No. *Hy 2910*, Queensland Museum, Brisbane, five females on a slide with type *Blatticida ashmeadi* Girault.

MISCOGASTEROMORPHA new genus.

Head normal, the face inflexed, the scrobes well developed, the mandibles strong, tridentate, the antennæ inserted ventrad of the middle of the face, 13-jointed and as in *Pteromalus* except that the two ring-joints are not quite so large; funicle joints all somewhat longer than wide and all somewhat longer than the pedicel; club 3-jointed. Scape slender, long. Axillæ barely separated, the delicate curved parapsidal furrows joining distinctly some distance before reaching the caudal margin of the scutum, the latter simple. Propodeum very short, laterad of the spiracle with two parallel carinæ (nearly in the lateral aspect yet dorsad). Abdomen short and stout, ovate, produced beneath, the ovipositor not exserted, none of the segments greatly lengthened. Fore wings as in *Pteromalus*, the well-developed postmarginal vein two thirds the length of the marginal, longer than the stigmal. Pubescence not conspicuous. Hind tibiæ with but one spur.

1. MISCOGASTEROMORPHA AJAX new species. Female. Genotype.

Length, 1.65 mm. Shining black, the abdomen (except the flat dorsal surface nearly to extreme tip) and legs honey yellow, the legs rather lemon yellow; first and third coxæ and base of second coxæ black. Wings hyaline, scape lemon yellow, the flagellum black. Immediate base of abdomen dorsad yellow. Mesopleurum glabrous, the pronotum and mesonotum densely scaly. Funicle joints more or less subequal. Fore wings moderately, densely ciliated, the marginal cilia short.

Habitat: Gordonvale (Cairns), Queensland. Jungle, June 16, 1913 (A. P. Dodd).

Type: No. *Hy 2911*, Queensland Museum, Brisbane, the above specimen on a tag, the head and a hind tibia on a slide.

Mr. A. P. Dodd has identified a second specimen of this species from the same place.

2. MISCOGASTEROMORPHA EUPELMIFORMIS new species.

Female:—Length, 1.60 mm.

Resembles in general *Eupelmomorpha quadricolor* Girault but the marginal stripe of abdomen extends only a little distad of middle; the conical scutum, head, axillæ and scutellum are the metallic purple parts while the rest of the coloration is as in that species, except that the abdomen is orange yellow. The fore wings have a yellowish tinge. Scape except at tip above, pedicel and club white; funicle 6 suffused with whitish, quadrate; funicle 1 longest, a little longer than 6 which is shortest and subequal to pedicel; funicle joints thus all subquadrate but 1 a little longer than wide. Mandibles tridentate. Thorax sculptured about as in the *Eupelmomorpha* but minute setigerous punctures are visible on the scutum. Disk of abdomen at proximal third washed with purple. Segment 2 of abdomen longest, occupying about a little less than a fourth of the surface, the abdomen delicately scaly.

From one female captured August 13, 1913 by sweeping in forest.

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 2912*, Queensland Museum, Brisbane, the above specimen on a tag; head on a slide between slide types of *Eupelmomorpha quadricolor* and *Eupelmomorpha tricolor.*

GENUS ATANEOSTIGMA Girault.

Head thin cephalo-caudad, the vertex very short, the antennæ inserted below the middle of the face and the ventral ends of the eyes, the scape cylindrical, the flagellum filiform, 6-jointed including the pedicel, no ring-joint. Antennæ 7-jointed, the club not differentiated. Postmarginal vein hardly developed, the stigmal very small, short, sessile, the marginal long and slender, as long as the submarginal, the venation as in *Coccophagus.* Intermediate tibial spur three fourths the length of the proximal joint of the middle tarsus, slender, legs normal. Axillæ conspicuously advanced into the parapsides, widely separated, the scutum convex, the

furrows delicate and narrow but distinct, curved but not short. Scutellum short, simple. Abdomen depressed, oval, not quite as long as the thorax. Propodeal spiracle minute, round. Mesopleurum convex, entire. Fore wing without an oblique hairless line. Parapsidal furrows widely separated at scutellum.

1. ATANEOSTIGMA PULCHRA Girault. Genotype.

Male:—Length, 3 mm.

Black, marked with bright lemon yellow as follows: All of scutellum except cephalic margin and a broad, sagittate area along the median line; a conspicuous wedge-shaped area on each side of the abdomen at proximal third, its apex mesad; the lateral margins of the scutum conspicuously and all of each parapside; the antennæ (honey yellow); all of head except most of the disc of vertex; and the legs, the distal tarsal joint dusky. Head and thorax polygonally reticulated. Wings hyaline. Types re-examined.

Habitat: Brisbane, Queensland.

Types: No. *Hy 2913*, Queensland Museum, Brisbane, two males on separate slides (remounted).

EUPELMOMORPHA new genus.

Female:—Antennæ inserted below the middle of the face, 12-jointed with one very short but distinct transverse-linear ring-joint, the club 3-jointed; scrobes forming a triangle. Face not inflexed. Parapsidal furrows delicate, curved off laterally, converging distad and barely separated at the scutellum (at their extreme apex). Axillæ barely separated. Marginal vein short, about a fourth the length of the submarginal, about four times longer than wide and somewhat longer than the stigmal which is rather short and curved; oblique hairless line present. Mandibles tridentate, the middle tooth longest. Hind tibial spur single. Postmarginal vein absent. The male antennæ bear four long branches.

Differs from *Miscogasteromorpha* in lacking the postmarginal vein, the short marginal vein and the single ring-joint which is very short.

1. EUPELMOMORPHA QUADRICOLOR new species.

Female:—Length, 1.60 mm.

Reddish yellow, the propodeum, head, a rather large subtriangular spot in center of scutum at cephalic margin or leading from cephalic margin conically to scutellum, its apex subacute and a marginal stripe down the abdomen from base nearly to apex (lateral aspect) dark metallic purple. Abdomen sulphur yellow. Legs reddish yellow. Wings hyaline. Distal half of scape (excluding bulla) and of pedicel silvery white. Scape long, slender and curved; pedicel a little shorter than funicle 6, which is distinctly longer than wide and longer than any of the club joints. Funicles 2-3 subequal, nearly thrice longer than wide, 1 and 4 subequal, each slightly shorter than 2 and 3, 5 shorter and thicker, a little shorter than 6. Club shorter than the scape, somewhat wider than the funicle. Head finely scaly reticulate, the thorax similarly sculptured, the green area of scutum with fine whitish hairs; this long cuneate area is green instead of purple. Normal for the family and resembling a species of *Eupelmus* except that the ovipositor is not exserted and the abdomen is more depressed.

Described from two females taken by sweeping in the forest, August 13, 1913.

Habitat: Gordonvale (Cairns), Queensland.

Types: No. Hy 2914, Queensland Museum, Brisbane, the females on a tag, the heads on a slide.

2. EUPELMOMORPHA TRICOLOR new species.

Female:—Length, 1.60 mm.

The same as the preceding but the whole thorax and cephalic femora are dark metallic purple. Scutellum very finely longitudinally striate in both species. Only the distal third of scape white. Scutum green.

From one female captured January 1, 1913 by sweeping in forest (A. P. Dodd).

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 2915,* Queensland Museum, Brisbane, the above specimen with types of *quadricolor.*

A very similar and common species occurs in the grass of forests at Capeville (Pentland), Queensland. It differs in having the marginal stripe of abdomen complete, thinner distad than proximad and the distal *half* of scape white. A minute dot against marginal stripe of abdomen at apex of proximal two thirds.*

3. EUPELMOMORPHA BICOLOR new species.

Female:—Length, 1.45 mm.

Similar to *tricolor* but smaller, the legs are all concolorous with each other and the marginal stripe of abdomen ends at distal fourth, that is, is somewhat shorter. Also the funicle joints are shorter, 2 longest, the others subequal or nearly and a little shorter than 2.

From one female captured by sweeping in forest, January 2, 1913 (A. P. Dodd).

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 2916,* Queensland Museum, Brisbane, the specimen with types of *quadricolor.*

Genus TANEOSTIGMODES Ashmead.

1. TANEOSTIGMODES GLOBOSUS new species.

Female:—Length, 1.80 mm. Robust.

Black, the abdomen and legs (except coxæ) intense lemon yellow, the dorsum of abdomen with four broad, regular dusky cross-stripes evenly distributed from base to apex. Antennæ black, the pedicel and first ring-joint whitish, the former dusky above at proximal half, the scape greatly foliaceously dilated; funicle 1 a little longer than wide, a little longer than the pedicel, 6 a little wider than long; antennæ 13-jointed with one ring-joint. Axillæ just meeting, the scutellum acute caudad, longitudinally lineolated; scutum, axillæ and parapsides transversely lineolated. Parapsidal furrows meeting just a little before tip, complete. Stigmal and postmarginal veins long, subequal, as in *Eucomys,* the marginal distinctly longer than either; wings hyaline, densely ciliate discally (fore wings). Mandibles tridentate, the third tooth broadly truncate. Hind tibial spurs single. Face normal. Abdomen stout, as long as the rest of the body, the ovipositor not exserted.

From one female caught in forest, April 9, 1914.

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 2917,* Queensland Museum, Brisbane, the female on a tag; head, middle and hind tibiæ on a slide.

A. TANEOSTIGMODES GLOBOSUS NOVUS new variety.

The same but the pedicel wholly white, the abdomen with faint cross-stripes, the cephalic femur dusky dorsad and the sclerite just cephalad of the mesopleurum margined with golden yellow. Also the funicle joints are all a little longer.

From one female caught May 13, 1914 by sweeping forest on sand-ridges near coast (A. P. Dodd).

Habitat: Chindera (Tweed River), New South Wales.†

Type: No. *Hy 2918,* Queensland Museum, Brisbane, the specimen on a tag with type *globosus.*

2. TANEOSTIGMODES BIFASCIATIFRONS new species.

Female:—Similar to *globosus* but the following parts golden or pale yellow: Propleurum, tegulæ, coxæ (except middle coxæ), mesopleurum (deep orange) and ventral half of face (but not the cheeks). Ventral half of face with a rather broad, longitudinal stripe down

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* *Eupelmomorpha hawthornei* new species. A female type in alcohol. September. Queensland Museum.

† Also a female by sweeping in forest along the banks of the Hawkesbury River at Brooklyn, N.S.W., November 14, 1914.

each side about half its own width from the eyes. Tip of club and a longitudinal stripe up the expansion of the scape, pale. Pedicel wholly whitish, somewhat shorter than funicle 1 which is longest, distinctly longer than wide, the distal funicle joints wider than long. Wings hyaline.

From one female caught in forest, September 12, 1914.

Habitat: Capeville (Pentland), Queensland.

Type: No. *Hy 2919*, Queensland Museum, Brisbane, the female in alcohol with type of *Atoposoma unguttatipes* Girault and other eulophids.

Subfamily APHELININÆ.

This group is related to the Taneostigminæ. The postmarginal vein is always absent, the middle tibial spur is rarely stout though often elongate, the femoral furrow is frequently present, the thoracic phragma never absent, the marginal vein most frequently as long as the submarginal, never punctiform and the parapsidal furrows are always distinct and straight. Also, the species are rarely metallic and the antennal funicle is never 6-jointed.

Tribe APHELININI.

Genus APHELINUS Dalman.

Synonym: *Perissopterus* Howard.

I have been unable to distinguish differences in the thorax of forms of either genus and one of the species described below connects the two as far as wing pattern is concerned.

In *Aphelinus* the club appears solid or 2-jointed according to the species. In the species with the first two funicle joints transverse (e.g. *fuscipennis* Howard), the next joint seems to belong to the club but in those species with the funicle joints quadrate (more or less) the third joint from the pedicel seems a part of the funicle. The difference seems graduate.

1. APHELINUS HAECKELI Girault.

A female, forest, Gordonvale, Queensland, April 15, 1914. The thorax is without a median sulcus, scaly. The general color may be greenish yellow and the abdomen on distal half bears obscure dusky cuneate marginal spots. The ovipositor is not shortly extruded as in *australiensis*. Caudal wings with about six lines of discal cilia, about four lines in *australiensis*. Type re-examined.

2. APHELINUS DIES Girault.

Length, 1.30 mm.

The type is on a slide and was captured by sweeping in March.

3. APHELINUS AUSTRALIENSIS Girault.

Length, 0.80 mm.

Thorax with a narrow median grooved line. Mandibles tridentate. Marginal cilia at apex of fore wing very short. Pedicel much longer than proximal club joint, the latter about a third the length of distal one. Hind wings near tip with five lines of discal cilia. The type is on a slide and was captured June 14, 1912.

4. APHELINUS FUSCIPENNIS Howard.

One female, October 30, 1911 at Mossman, Queensland from foliage of a roadside plant. Is this really *fuscipennis* or a parallel or chance Australian species similar to that species?

5. APHELINUS PERISSOPTROIDES new species.

Female:—Length, 0.80 mm. Compared with types of *ruskini, miltoni* and *grotiusi.*

In my table of Australian species, disregarding the wings, runs to *grotiusi* from which it differs in being flattened and robust, the first club joint widens distad and is somewhat wider than long while the discal ciliation of the fore wings is broken into naked areas forming a colorless pattern somewhat as in *Perissopterus* except that the ciliated spaces are not infuscated deeply and the hairless ones less numerous than usual. From *ruskini* in the distal ciliation of the fore wing and general coloration. From *miltoni* much as from *grotiusi.* From *fuscipennis* in bearing but seven lines of cilia proximad of the hairless line, in having the pattern on the fore wing and somewhat different antennæ. The ciliated areas on the fore wing are faintly dusky; the bare or half-bare spots are as follows: Apical margin narrowly; a rounded area just distad of venation; one in centre of blade opposite stigmal vein and one at caudal margin opposite the one distad of venation. When viewed with a lens, there appear to be four rounded faintly dusky spots arranged in a square in the centre of the wing. Mandibles bidentate. Legs white, immaculate. Postscutellum transverse. Scutum with a median groove.

From one female captured in forest, April 17, 1914 (A. P. Dodd).

Habitat: Cloncurry, Queensland.

Type: No. *Hy 2920,* Queensland Museum, Brisbane, the female on a slide.

This species has all the characters of *Perissopterus* except the small triangular postscutellum; the mesonotal sclerites seem quite normal as do also those of my *Perissopterus inexplicabilis.* The genus *Perissopterus* should be carefully scutinized because its general resemblance to *Aphelinus* is most striking and we have just seen a species of the latter which has the fore wings which approach the peculiar type of wing pattern common to species of *Perissopterus.*

6. APHELINUS MILTONI new species.

Female:—Length, 0.67 mm.

In my table to the Australian species running to *grotiusi* Girault from which it differs as follows: The general coloration is deeper, being golden or orange yellow; the abdomen is somewhat more slender, the ovipositor somewhat extruded as in *australiensis*; the fore wings somewhat broader and bear shorter marginal fringes; club 1 is longer than wide (subquadrate in *grotiusi*); and in the fore wing, the oblique hairless line is barely differentiated and proximad of it there are about six lines of discal cilia (only three in *grotiusi*). Mandibles 3-dentate in both species.

From one female taken in forest, January 4, 1912.

Habitat: Capeville (Pentland), Queensland.

Type: No. *Hy 2921,* Queensland Museum, Brisbane, the specimen on a slide.

Dedicated to John Milton.

7. APHELINUS RUSKINI new species.

Female:—Length, 1.15 mm. Robust.

In my table of species runs to *grotiusi* from which it may be distinguished by having both funicle joints subannular as in *fuscipennis,* in having the first club joint cup-shaped, somewhat wider than long, in bearing about seven lines of discal cilia proximad of the hairless line, in being more robust and in bearing a distinct median groove on the thorax. General color dull honey yellow tinged with reddish. Fore wings with about thirty lines of very fine discal cilia where widest. Form as in *fuscipennis.* Differs from *miltoni* in being much more robust, duller and darker in color, in having the oblique hairless line very distinct, the cilia proximad of it distinctly much coarser than those of the main ciliation. Also the first club

and the funicle joints are shorter. Wings hyaline. Hind wings short and broad but acute at apex, where broadest with about 8 lines of discal cilia. Third tooth of mandible subobsolete.

From one female taken by sweeping in forest, January 4, 1912.

Habitat: Capeville (Pentland), Queensland.

Type: No. *Hy 2922*, Queensland Museum, Brisbane, the female on a slide.

8. APHELINUS LITERATUS new species.

A living female of this species reared from a *Chionaspis* on cockatoo apple, November 10, 1913 and immersed in balsam showed to perfection its indescribable beauty and odd markings. Along each side of the abdomen are eight large globular to quadrate silvery spots and what appear to be the spiracles showing centrally within these as black dots; an ovate spot of same on base of abdomen on each side of meson; on propodeum a triangle filling the meson with a transverse cuneate dash on each side; on postscutellum a square centrally distad and a larger triangle on each side; on scutellum an inverted *tau* of the lower case filling meson and on each side of it a lower case *gamma* followed laterad by a round dot (on axilla). The scutum bears an *Upsilon* capital with its arms extended and reaching to base, the arms extending around caudal and lateral margins. The vertex has a pattern. The gammas on the scutellum are unsymmetrical being unlike. A row of black dots beneath the row of spots, lateral aspect of abdomen. Figure 8 on fore wing not complete.

Differs from *inexplicabilis* Girault in having the thoracic and vertex markings (the vertex bears a peculiar pattern) and in the fore wings, the figure 8 being incomplete, the caudal circle not completed by the caudal line whose apex is drawn out thinly around the caudo-distal wing margin. Otherwise, the same. The pattern of silvery on vertex includes three straight lines running caudad which separate the lateral ocelli from each other and from the respective eye margins.

From three females reared as indicated above.

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 2923*, Queensland Museum, Brisbane, one of the females on a slide.

9. APHELINUS NOX Girault.

" Two females, sweeping miscellaneous vegetation in an open field near town, Mackay, Queensland, October 19, 1911 (A.A.G.). The two funicle joints are short, transverse, each much shorter than the first club joint " (A. P. Dodd).

In the table of species, *antea*, p. 183, all the types were seen except that of *fuscipennis*; line 25 (one line before *haeckeli*), *larger* read *longer*.

Genus COCCOPHAGUS Westwood.

Synonym: *Prospaltella* Ashmead.

The species of *Prospaltella* intergrade and it is impossible to distinguish the genera in the case of many species; even the stigmal vein is not constant. For extreme *Prospaltella* forms compare *abnormicornis* and allies. These form a distinct genus but there may be intervariations. The species may or may not have a ring-joint.

1. COCCOPHAGUS ANTIOPA (Girault).

Prospaltella antiopa Girault.

General color golden yellow, the abdomen, propodeum, pronotum and cephalic two thirds of scutum dusky. Funicle joints elongate, 1 over twice the length of the pedicel, shortest, 3 two and a half times longer than wide, longest, subequal to club 1. Type re-examined.

2. COCCOPHAGUS AURANTII Howard.

"Female.—Length, 0.7 mm.; expanse, 1.16 mm.; greatest width of fore wing, 0.18 mm. Joint 1 of funicle shorter and narrower than pedicel and than joint 2, which is subequal to pedicel in length and width, joint 3 shorter than joint 2. Surface of thorax smooth. General color light brownish yellow; occipital line, margin of pronotum and a median stripe on mesoscutum, scapulæ, outer edge of metanotum, abdomen, especially lateral margin, darker; antennæ and legs light fuscous; eyes black, ocelli red; wings hyaline, veins slightly dusky. Fore wings with disk densely, finely and uniformly ciliate, costal margin with very short marginal cilia beginning at stigma, growing gradually longer at tip of wing and on lower outer margin becoming half the width of wing; broadest portion of wing beyond stigma; hind-wings as with preceding species.

Described from two female specimens reared May 9, 1887, by D. W. Coquillett from *Aspidiotus aurantii*, var. *citrinus*, from San Gabriel, Cal."

3. COCCOPHAGUS ALBISCUTELLUM Girault.

A. COCCOPHAGUS ALBISCUTELLUM SCHILLERI new variety.

Female:—Length, 0.65 mm.

Extremely like the typical form but the caudal femora are not dusky as in that form, the fore wings are only obscurely dusky under the marginal vein and are somewhat narrower, the incisions of the abdomen appear as so many white cross-stripes and the proximal tarsal joints are shorter. No type.

From one female taken in forest, December 9, 1913.

Habitat: Gordonvale (Cairns), Queensland.

A second one same place, June 17, 1914. In this specimen, the head was orange yellow.

A female of the typical form, Gordonvale (Cairns), Queensland, jungle, May 24. The scutellum is more yellowish. The antennæ a little slenderer, the fore wings less distinctly infuscated. Compared with type. The North Queensland specimen bore a distinct, narrow median groove on the scutellum and this is distinctly indicated on the type specimen now in balsam. The fore wing is infuscated under the marginal vein only. The ovipositor is as in *Ablerus*. Stigmal vein directed cephalad. Hind wing acute, with about five lines of discal cilia.

4. COCCOPHAGUS FILIUS new species.

Female:—Length, 0.75 mm.

Very similar to *boswelli* Girault but the club is wholly black, the scutellum contrasts being brilliant lemon yellow, the axillæ and mesopleurum are black, also upper occiput and the funicle joints are all somewhat shorter. The ovipositor valves just tip the abdomen. Otherwise alike in every detail. The ovipositor is inserted farther distad, a little distad of the middle.

From one female taken by sweeping in forest, April 28, 1914.

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 2924*, Queensland Museum, Brisbane, the specimen on a tag with type of *Aphelinus ruskini*.

5. COCCOPHAGUS TRIGUTTATUS new species.

Female:—Length, 1 mm.

Differs from the generic diagnosis in bearing a very short ring-joint and the hind tibial spurs are double.

Intense golden yellow (greenish yellow), the wings hyaline, the antennæ and legs concolorous. On the distal half of abdomen, three conspicuous round black spots from dorsal

aspect arranged in a triangle, the apical one at tip, the basal two at lateral margin, one on each side just beyond proximal half (sometimes, if the segments are stretched, split transversely into two more or less rectangular spots); a small triangular spot at apex (cephalad) of each axilla, also jet black, as well as the cephalic margin of scutellum between the parapsidal furrow ends. Base of fore wing very slightly dusky and a curved, narrow black line down propodeum on each side near margin. Head and thorax finely reticulate. Mandibles tridentate. First funicle joint twice longer than wide; 2 and 3 distinctly shorter, not much longer than wide, 2 a little the longer; 3 subequal to pedicel; club distinct, ovate, without a terminal nipple, its joints wider than long. Funicle and club with closely applied, rather coarse hairs which arise at the base of each joint and extend its length (except first funicle joint where they arise farther distad).

Described from five females reared in connection with a cecidomyiid gall on the stem of a young *Eucalyptus corymbosa* (bloodwood) but which was infested with unarmored coccids, November 13, 1913 (A. P. Dodd).

Habitat: Northern Queensland (Gordonvale near Cairns).

Types: No. *Hy 2925*, Queensland Museum, Brisbane, two females on a tag, one female and a head on a slide.

6. COCCOPHAGUS SOPHIA new species of Girault and A. P. Dodd.

Female:—Length, 0.50 mm.

Golden yellow, the wings hyaline and closely allied with *aureola* Girault but the first funicle joint is not globular and distinctly shorter than the second but all three joints of the funicle are distinctly longer than wide and subequal, the pedicel slightly shorter than each. Also, the club is more slender and the abdomen is not dusky. The hind wings are very narrow, distinctly not as wide as the caudal marginal fringes of those wings (in *aureola*, nearly as wide at widest part as these fringes).

Described from two females reared from an aleyrodid, November 9, 1911 (A. A. Girault).

Habitat: Northern Queensland (Cairns).

Types: No. *Hy 2926*, Queensland Museum, Brisbane, the above specimens on a slide.

7. COCCOPHAGUS AURICAPUT new species.

Female:—Length, 0.68 mm.

Orange yellow, the abdomen black, the legs lemon yellow except the dusky hind coxa. Antennæ lemon yellow, the funicle joints increasing in length distad, 3 longest, nearly twice as long as wide, 1 subequal to the pedicel, distinctly longer than wide; club joints longer than wide, about subequal to funicle 2. Fore wings densely, finely ciliate, the stigmal vein short, sessile. Hind wings acutely pointed, with about eight lines of fine discal cilia where widest. Middle tibial spur long and slender. Mandibles bidentate, the second tooth broadly truncate. Wings hyaline.

From one female taken in forest, January 4, 1912.

Habitat: Capeville (Pentland), Queensland.

Type: No. *Hy 2927*, Queensland Museum, Brisbane, the specimen on a slide with that of *Paruscanoidea dickensi*.

8. COCCOPHAGUS BOSWELLI new species.

Female:—Length, 0.80 mm.

Deep orange yellow, the scutellum lemon yellow, the abdomen and club jet black, the fore wing with a black cross-stripe from a little over the proximal half of the marginal vein, its distal margin oblique. Club whitish at extreme base and extreme tip; funicle 3 white. Valves of ovipositor shortly extruded. Funicle 3 a little the shortest, all nearly equal and

about twice longer than wide, a little longer than the pedicel. Club enlarged, somewhat over twice wider than the funicle in one aspect. Legs silvery white. One short ring-joint present. Hind coxæ black, the middle dusky. Hind wings short, narrow, with four rows of discal cilia. Proximal tarsal joint much longer than the others. Middle tibial spur small, truncate. The stigmal vein nearly parallel with cephalic margin.

From one female taken in jungle, March 6, 1914 (A. P. Dodd).

Habitat: Cooktown, Queensland.

Type: No. *Hy 2928,* Queensland Museum, Brisbane, the female on a slide with type *Scelioencyrtus tricolor* Girault.

9. COCCOPHAGUS SWIFTI new species.

Female:—Length, 0.75 mm.

Sooty black, the scutellum and propodeum contrasting bright golden yellow, also ventral third of head, the antennæ and legs pale yellow but the distal two joints of the club a little dusky. Parapsidal furrows yellowish brown; fore wings dusky margin to margin under all of marginal vein. Differs from *Encarsia aurithorax* in general coloration; funicle 1 is distinctly longer and the stigmal vein somewhat shorter and parallel with cephalic wing margin; also in *aurithorax* the hind coxa and femur is distinctly infuscated. Differs from *albiscutellum schilleri* in having the propodeum golden yellow, the funicle joints much longer and so on. From *antiopa* in its much darker color, having the entire scutum black except lateral margins very narrowly, the propodeum light yellow and the hind wings decidedly broader and the greater size. Parapside yellowish cephalad. Funicle 1 thrice longer than wide, 2 and 3 subequal, two and a half times longer than wide; club joints 1-2 subequal, each somewhat shorter than funicle 3; club 3 still shorter but longer than the pedicel. Antennæ subfiliform. Thorax finely, densely, longitudinally lined. Hind wings with six lines of faint discal cilia. Ovipositor inserted distad of middle. Compared with types of named species except the variety of *albiscutellum.*

From one female taken in forest, June 10, 1914.

Habitat: Gordonvale (Cairns), Queensland.

Type: No. Hy 2929, Queensland Museum, Brisbane, the female on a slide.

Dedicated to Jonathan Swift.

10. COCCOPHAGUS ASHMEADI new species.

Female:—Length, 0.75 mm.

Exactly similar to *nigriventris* except that funicle 1 is barely shorter than 2 and the scutum cephalad is dusky. Also, the club is more definite and the sides of the thorax are black. Compared with types of *nigriventris, antiopa* and *perpulchellus.* The funicle joints are distinctly shorter than in the latter and the antennal coloration different. In *antiopa* the flagellar joints are all longer and the general coloration different.

From one female taken in forest on sand-ridges near coast, May 13, 1914 (A. P. Dodd).

Habitat: Chindera (Tweed River), New South Wales.

Type: No. *Hy 2930,* Queensland Museum, Brisbane, the specimen on a slide.

Dedicated to William H. Ashmead for his important studies on the major groupings of the Hymenoptera.

11. COCCOPHAGUS THOREAUINI new species.

Female:—Length, 0.70 mm.

Orange yellow, the wings hyaline, the abdomen, legs and antennæ lemon yellow; a short, wedge-shaped spot on cephalic scutum each side of meson, a faint round dot cephalic aspect

of each axilla, a transverse spot on abdomen at base and a rather large round spot in center of abdomen, black or dusky black. Differs from *Encarsia justitia* in having the black markings and shorter marginal fringes on the fore wings which here are not more than a sixth of the greatest wing width. From *aureola* in having funicle 1 somewhat longer than wide, the concolorous abdomen and the black markings. From *biguttatus* in the somewhat narrower, more coarsely ciliated fore wings, the longer stigmal vein and the markings. Closely allied with *aureola.* Caudal marginal fringes of hind wings a little longer than the greatest width of those wings, funicle 1 a little shorter than the others; a minute ring-joint. Club joints longer than wide. Discal cilia of fore wing uniform, five lines of it on caudal wings where widest.

From one female taken along the Tweed River, May 3, 1914 (A. P. Dodd).

Habitat: Tweed Heads, New South Wales.

Type: No. *Hy 2931,* Queensland Museum, Brisbane, the specimen on a slide.

This species is dedicated to Henry David Thoreau.

12. COCCOPHAGUS CLARISCUTELLUM new species.

Female:—Length, 0.75 mm.

Reminds one of *albiscutellum,* the scutellum brilliant, contrasting silvery white but the ovipositor is not as in *Ablerus,* the scutum is honey yellow, blackish at cephalic third, the hind coxa and femur black, rest of legs white; face silvery and with a black cross-stripe at the clypeus, the vertex and rest of head orange yellow; fore wings with a dusky cross-stripe across from whole of marginal vein. Antennæ and the small parapside orange; club joint 3 black. Funicle 1 subglobular, smaller than the small pedicel, not quite half the length of funicle 2 which is distinctly longer than wide, longer than the pedicel, subequal to 3; club joints subequal to distal funicle joint or a little shorter, the club not well defined; a minute ring-joint. Distal part of club 2 dusky. Fore wings uniformly but not densely ciliate, their marginal cilia short, not a fourth the greatest wing width, shorter than the longest marginal cilia of hind wings, the latter with about four rows of distal cilia proximad, their caudal marginal cilia a little longer than their greatest width. Thorax without a median sulcus.

From one female taken by sweeping jungle along the Mulgrave River, April 12, 1914.

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 2932,* Queensland Museum, Brisbane, the specimen on a slide.

13. COCCOPHAGUS BIGUTTATUS new species.

Female:—Length, 0.72 mm.

Pale honey yellow, the wings hyaline; pronotum at middle rather widely and a diamond-shaped spot on each side of thorax in the vicinity of the axillæ black. Stigmal vein very short, nearly sessile, the fore wing very densely, finely ciliate discally. Funicle joints not long, 3 quadrate, the other two a little longer than wide, subequal to pedicel, the club well-defined. Ovipositor and valves distinctly extruded for a length equal to nearly a fourth that of the abdomen, the valves dusky blackish. Scutum simple, scaly. Middle tibial spur long and slender. Abdomen distad with faintly indicated, narrow cross-stripes (just before apex). Marginal fringes of fore wing short. The two spots seem to be on cephalic two thirds of each axilla.

From two specimens taken by sweeping lantana, October 20, 1911.

Habitat: Mackay, Queensland.

Type: No. *Hy 2933,* Queensland Museum, Brisbane, one female on a slide.

14. COCCOPHAGUS PICITHORAX new species.

Female:—Length, 0.60 mm.

Exactly similar to the following (*lautus*) but differing in having each lateral margin of abdomen black from base to apex of proximal three fourths. Differs from *Encarsia cybele* in having much narrower fore wings, the marginal stripe of abdomen less conspicuous and the antennal joints all shorter.

From one female taken on grass in forest, April 4, 1914.

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 2934*, Queensland Museum, Brisbane, the female on a slide with type *lautus*.

15. COCCOPHAGUS LAUTUS new species.

Female:—Length, 0.65 mm.

Jet black, the abdomen brilliant golden yellow, the antennæ and legs a little paler than the abdomen; propodeum suffused with yellowish; lateral margin of parapsides and mesal margins of eyes yellowish. Wings hyaline, the stigmal vein sessile, directed cephalad. Posterior wings not long nor broad, with a line of discal cilia along each margin and a scattered central line. Fore wings with about twenty lines of fine discal cilia where broadest. Funicle joints cylindrical, subequal, each about one and two third times longer than wide, 1 a little shorter than the others which are subequal to the distal two club joints, the proximal club joint a little shorter than the others. Club barely wider than the funicle, the flagellum filiform or nearly. Middle tibial spur slender, not especially long. Marginal fringes of hind wing (caudal margin) somewhat longer than the greatest width of the blade, longer than any of the fringes of the fore wing. Pedicel subequal to funicle 1.

From one female taken by sweeping grass in forest, April 1, 1914.

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 2935*, Queensland Museum, Brisbane, the specimen on a slide with type of *Lathromerella longiciliata* Girault.

16. COCCOPHAGUS ARGENTEUS new species.

Female:—Length, 0.65 mm.

Silvery white, the wings with a more or less obscure dusky long-oval spot in center of blade projecting a little distad of venation, the following parts honey yellow—center of vertex, scutum, parapsides and scutellum. The following parts jet black—dorsum of abdomen excepting for three round spots in a triangle, one at apex, the other two opposite, at the lateral margin at distal two thirds; center of occiput; and the club except distal half or more of distal joint. Lateral halves of each funicle joint and the axillæ dusky. Funicle joints subquadrate, smaller than the club joints, subequal to the pedicel. Ocelli in a triangle, the lateral ones away from the eyes. Scutum and scutellum with scattered setæ. Hind wings with about six lines of fine but not dense discal cilia, all disappearing at apex, the caudal marginal fringes short. Fore wings with a more or less obscure sooty longitudinal area centrally but caudad of middle, extending from proximal third of marginal vein some distance distad of venation and coterminous with the discal cilia, the wing naked broadly from apex to venation (excepting from the central extension in the sooty area). There is also a more or less naked area just beneath the end of the marginal vein. Stigmal vein sessile. Antennæ 9-jointed, with one very short ring-joint.

From one female taken on a window, January 16, 1914.

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 2936*, Queensland Museum, Brisbane, the female on a slide.

17. COCCOPHAGUS PERPULCHELLUS new species.

Female:—Length, 0.80 mm.

Brilliant lemon or greenish yellow, the fore wings with a jet black stripe across them under all of marginal vein and smoky under proximal two thirds of submarginal vein; legs silvery white, the antennæ silvery tinged with yellow, the first two club joints jet black. Abdomen, metapleura, propodeum except broadly at meson and pronotum, jet black, the incisions of abdomen showing a little as white. Immediate tip of abdomen and the tip of the valves of the ovipositor, white. Antennæ filiform but the club distinct, shorter than the funicle whose three joints are thrice or more longer than wide, 1 a little the shortest. Pedicel subglobular, much shorter than funicle 1. Club joints a little wider, distinctly longer than wide. Scutellum apparently with a thin median grooved line. Hind wings acute. Ovipositor inserted at distal third. One ring-joint.

From one female caught in forest, April 28, 1914.

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 2937*, Queensland Museum, Brisbane, the female on a slide.

18. COCCOPHAGUS ABNORMICORNIS new species.

Female:—Length, 0.70 mm.

Purplish black; head (except much of occiput), scutum (except cephalad rather broadly along meson at cephalic half), parapsides and scutellum (except a large round spot on each side at caudal margin) honey yellow; centrally, scutum orange yellow. Knees, tibiæ except just below knees, tarsi and propodeum laterally, also honey yellow. Antennæ brownish, the flagellum tapering; pedicel subequal to funicle 2; funicle 1 abruptly short, wider than long, 2 over twice its length, 3 longest, subequal to 1 and 2 of the club, each of these three joints twice (or more) longer than wide, club 2 narrower; distal club joint narrow, subequal to funicle 2; club not differentiated. Marginal vein distinctly shorter than the submarginal, the stigmal short but with a distinct neck; marginal fringes of fore wing a little longer than usual; a more or less obscure brownish cross-stripe from the whole of the marginal vein. Hind femur compressed. Mandibles bidentate, the second tooth followed by a truncation (or broadly truncate, its lateral apical angle acute). Mesopleurum entire, small. Thorax finely scaly. Abdomen truncate behind.

From one female caught in forest, August 22, 1912.

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 2938*, Queensland Museum, Brisbane, the female on a tag; head, fore wing and hind leg on a slide.

19. COCCOPHAGUS SINGULARIS new species.

Female:—Exactly similar to the preceding but the legs are all silvery white, the occiput bears only a faint, narrow cross-stripe centrally, the two caudal spots on scutellum are longer and closer together (the yellow space between them is narrow, this median line distinctly much less than half the width of one of the spots; in *abnormicornis*, the two spots more round and the mesal space between them is distinctly more than half the width of one of the spots). Marginal vein black, rest of venation pale.

From one female caught in forest, March 31, 1914.

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 2939*, Queensland Museum, Brisbane, the specimen on a slide.

20. COCCOPHAGUS AUREOLA (Girault).

Funicle 1 in the male is longer than in the female. *Antea*, p. 189, line 5 of the description, *funicle* read *club*.

21. COCCOPHAGUS REGULUS new species.

Female:—Length, 0.95 mm., excluding ovipositor.

Similar to *abnormicornis* and *singularis* but at once distinguished from either in having funicle 1 longer than wide, the pedicel elongate (somewhat over twice longer than wide at apex: only slightly longer than wide at apex in *abnormicornis* and *singularis*), the black on the scutum acutely prolonged conically to scutellum (more or less obscurely so in the other species), the marginal vein longer, somewhat over half the length of the submarginal, the fore wing dusky from base to apex of venation, the head black except vertex. Valves of ovipositor extruded distinctly a short distance. Legs black, the knees whitish, also the tibiæ, the caudal femur compressed, large. Antennæ about as in *singularis* but slenderer, the pedicel elongate as noted.

From one female caught by sweeping forest, May 4, 1914 (A. P. Dodd).

Habitat: Murwillumbah (Tweed River), New South Wales.

Type: No. *Hy 2940*, Queensland Museum, Brisbane, the specimen on a slide.

22. COCCOPHAGUS UNFASCIATA new species.

Female:—Length, 0.75 mm.

Deep golden yellow, the abdomen with a black stripe across its middle dorsad and another across base, the axillæ, propodeum and pronotum also black. Fore wings dusky from margin to margin under all of marginal vein, the marginal fringes long, the longest about two thirds the greatest wing width and about as long as the caudal fringes of the hind wing. Fore wing with about eleven, the hind wing with about three, lines of discal cilia where widest. Club acuminate, the conical distal joint longer than either of the other two which are subequal, each somewhat longer than wide, longer than any of the funicle joints. Funicle 1 somewhat wider than long, 2 and 3 subequal, each a little longer than wide, a little longer than the pedicel, distinctly longer than 1. Thorax shagreened, without a median groove. Legs white; antennæ yellowish white. Differs notably from *antiopa* in the somewhat longer marginal fringes of the fore wing, the different color, the short first funicle joint and the differentiated club which narrows distad.

From one female caught by sweeping forest, May 18, 1914.

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 2941*, Queensland Museum, Brisbane, the specimen on a slide.

23. COCCOPHAGUS ARGENTIFASCIA new species.

Female:—Length, 0.70 mm. Ovipositor inserted distad of proximal half as in *argenteus*.

Orange yellow; lower face, pronotum, propodeum and immediate base of abdomen dusky. Abdomen black with a broad silvery white band across just out from base (occupying a little over a third of the surface). Legs except proximal half of coxæ, silvery white. Antennæ lemon yellow, distal club joint dusky. Fore wings with a light brownish stripe across them beginning a little distad of proximal third of marginal vein and ending a little distance distad of venation. Flagellum cylindrical, the club a little wider than the funicle; pedicel shorter than funicle 1 which is a little shorter than 3, 2 longest, a little over twice longer than wide, a third longer than 1. Club joints longer than wide. Stigmal vein with a short but distinct neck. Fore wings rather slender. Scutum with scattered setæ.

From one female taken from a window, February 24, 1914.

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 2942*, Queensland Museum, Brisbane, the female on a slide.

DIAGNOSIS OF THE AUSTRALIAN SPECIES OF *COCCOPHAGUS* WESTWOOD.

(Compiled from types except *aurantii.*)

Submarginal vein of fore wing distinctly longer than the marginal (more or less a half longer); flagellum tapering from base, funicle 1 abruptly shortened. Species purplish black marked with yellow.

Head, scutum except cephalic margin and rather broadly along meson at cephalic half, parapsides and scutellum (except a large round spot on each side at caudal margin), honey yellow; knees, tibiæ except just below knee, tarsi and propodeum laterad, also honey yellow. Funicle 1 wider than long, 2 subequal to the pedicel. An obscure brownish cross-stripe from marginal vein .. *abnormicornis* Girault.

The same but the legs all white (see description) .. .. .. *singularis* Girault.

The same as *abnormicornis* but funicle 1 plainly longer than wide, the pedicel elongate, subequal to funicle 3, the fore wings distinctly infuscated from base to apex of venation, the marginal vein over a half the length of the submarginal. Black on meson of scutum extending farther distad .. .. .. *regulus* Girault.

Submarginal vein of fore wing obviously more or less subequal to the marginal; flagellum subfiliform or regularly clubbed.

Stigmal vein round, sessile or subsessile, nearly at right angles to apex of marginal (appearing casually like a drop of water on the under surface of a plane surface); neck of stigmal vein if present, a constriction, the knob globular and forming the principal part of the vein.

Golden or orange yellow species.

Bright golden yellow, the abdomen with a triangle of three large round black spots on distal half, the apical spot at apex of abdomen; wings hyaline, broad; distal two funicle joints quadrate, each shorter than 1, the club distinct, short; stigmal vein sessile .. .. .. *triguttatus* Girault.

Pale honey yellow, the valves of ovipositor distinctly extruded. Thorax with two black spots, one on each axilla. Wings hyaline, moderately broad, the stigmal vein with a short neck, oblique. Club well defined. Funicle joints short; meson of pronotum broadly dusky .. *biguttatus* Girault.

Yellow and black species, often marked with silvery white.

Orange yellow, the abdomen and caudal coxa black; funicle joints increasing in length distad, 3 nearly twice longer than wide, 1 subequal to pedicel, longer than wide. Fore wings hyaline, densely ciliate, the stigmal vein sessile. Mandibles bidentate, the second tooth broadly truncate. Club defined .. .. *auricaput* Girault.

Orange yellow; lower face, pronotum, propodeum and immediate base of abdomen, dusky; abdomen black with a broad band of silvery white across it near base. Legs white. Fore wings with a light brownish cross-stripe; stigmal vein with a short neck. Funicle 2 longest, club defined. Ovipositor inserted distad of middle .. .. *argentifascia* Girault.

Silvery white; center of vertex, scutum, parapsides and scutellum, honey yellow; dorsum of abdomen (except three large, round spots in a triangle, one at apex, others at distal two thirds at margin), center of occiput and club (except distal half of joint 3) black. Lateral half of each funicle joint and the axillæ dusky. Funicle joints subquadrate. Fore wings with an isolated infuscated area, naked distad. Stigmal vein subsessile. Club distinct. Ovipositor inserted distad of middle .. *argenteus* Girault.

Golden yellow, the cephalic two thirds of axillæ, propodeum, a broad stripe across abdomen near middle and pronotum black, the wings hyaline. See description. Male .. .. *poei* Girault.*

* A *nomen nudum,* the description lost. The specimen is in the Queensland Museum on a slide and is from Northern Queensland (Gordonvale).

Black species.

Legs and antennæ lemon yellow except caudal coxæ and femora; wings hyaline, the stigmal vein sessile, the postmarginal vein as long as it; funicle joints distinctly longer than the pedicel, 1 nearly twice longer than wide, all with an apparent cross-division into halves; club distinct. Caudal coxa and femur with a distinct longitudinal lineolation. Marginal vein somewhat longer than the submarginal. Caudal wings very broad, with about sixteen lines of discal ciliation .. .. .. *funeralis* Girault.

Stigmal vein longer than wide, without a constricted neck, not subsessile, subuniform in width (tapering distad) and more parallel with the cephalic wing margin.

Club very distinct, twice wider than the narrow funicle.

Deep orange yellow, the scutellum lemon yellow, the abdomen and club jet; fore wing with a black cross-stripe from a little over proximal half of marginal vein; club white at base and tip; funicle 3 white, a little the shortest, nearly twice longer than wide, a little longer than the pedicel. Legs silvery white. Fore wings with about sixteen lines of discal cilia, rather slender .. .. *boswelli* Girault.

The same but club all black, the scutellum contrasting brilliant lemon yellow, the axillæ, mesopleura and upper occiput are black and the funicle joints are all somewhat shorter. The ovipositor is inserted farther distad, a little distad of middle .. .. *filius* Girault.

Club not very distinct though mostly well defined, not twice the width of the funicle. Marginal fringes of fore wing a fourth or more the greatest wing width.

Light brownish yellow; margin of pronotum, a median stripe on scutum, scapulæ, lateral edge of propodeum and abdomen especially marginally, darker. Wings hyaline, the fore wings uniformly, finely ciliate. Funicle 1 shorter and narrower than pedicel, 2 subequal to pedicel, 3 shorter than 2, longer than 1. Club well defined .. *aurantii* Howard.

Lemon yellow, the pronotum and abdomen black; fore wing with a sooty stripe from whole of marginal vein; funicle 1 about half the length of 2, 3 longer than 2, about twice longer than wide; flagellum filiform, the pedicel short. Legs very pale. Marginal cilia a third the greatest wing width .. .. *nigriventris* Girault.

The same but funicle 2 is barely shorter than 3 and the sides of the thorax black .. .. *ashmeadi* Girault.

Golden yellow, the wings hyaline, the three funicle joints subequal, distinctly longer than wide, the pedicel a little shorter than either. Caudal wings not as wide as their caudal marginal cilia; club slender, defined. Marginal cilia nearly half the greatest wing width .. .. .. *sophia* Girault and Dodd.

Similar to *aurantii* but the abdomen wholly dusky, the rest of the body deep orange yellow; also funicle 3 is subequal to 2 and the marginal cilia of fore wing where longest are only a fourth (or a little more) of the greatest wing width .. .. .. *aureola* Girault.

Golden yellow; pronotum, propodeum, axillæ, a stripe across base and at middle of abdomen black; fore wing with a dusky stripe across from marginal vein; longest marginal cilia two thirds the greatest wing width; funicle about as in *aureola*, the club defined; caudal wings much narrower than their longest marginal cilia .. *unfasciata* Girault.

Similar to *aurantii* but the fore wings infuscated across from whole of marginal vein, the propodeum, cephalic two thirds of scutum and most of each parapside, are also dusky while the funicle joints are elongate, 3 two and a half times longer than wide; longest marginal cilia of fore wings somewhat over a third the greatest width; pedicel subglobular. Club not differentiated .. .. *antiopa* Girault.

Marginal cilia of fore wing shorter.

Funicle 1 abruptly shortened, quadrate, shorter than the pedicel. Black; scutellum silvery white; legs white except hind coxæ and femora; face silvery and with a black cross-stripe at the clypeus; vertex, parapside and caudal two thirds of scutum yellow; antennæ yellow, club 3 black. Fore wing with a dusky stripe from whole of marginal vein; funicle joints 2 and 3 somewhat longer than wide, subequal .. .. .. *clariscutellum* Girault.

Funicle 1 not abruptly shortened and longer than wide.

Ovipositor distinctly extruded.

Black, the scutellum silvery white; antennæ pale yellow, the funicle joints subequal, a little longer than wide; legs whitish except caudal femur which is dusky; fore wings dusky under all of marginal vein .. .. *albiscutellum* Girault.

Ovipositor not extruded.

Abdomen all black. Fore wings with a distinct cross-stripe under all of marginal vein.

Scutum all black except lateral margins very narrowly.

Black; scutellum, propodeum and ventral third of head, lemon yellow; wing with a cross-stripe; funicle 1 thrice longer than wide; antennæ and legs pale yellow; club 2 and 3 dusky .. .. *swifti* Girault.

Scutum yellow except rather narrowly cephalad; legs white, the pronotum dusky.

Distal club joint black; hind femur black. Lemon yellow, the sides of thorax black. Funicle 3 twice longer than wide *seminigriclavus* Girault.

Proximal two club joints black. Legs all white. Lemon yellow, the metapleura and propodeum mostly black. Funicle 3 thrice longer than wide .. *perpulchellus* Girault.

Abdomen entirely yellow except lateral margins in one case.

Black; abdomen brilliant golden, the legs and antennæ paler than it; propodeum suffused with yellow; lateral margin of parapsides yellow; wings hyaline; funicle joints all nearly twice longer than wide, 1 shorter .. .. .. *lautus* Girault.

The same but margin of abdomen narrowly black from base to apex of proximal three fourths .. .. *picithorax* Girault.

Intense orange yellow, the wings hyaline; a short wedge-shaped spot on cephalic scutum, each side of meson, a faint round dot cephalic aspect of axilla, a transverse spot at base of abdomen and a round spot centrally on abdomen, black. Funicle 1 somewhat longer than wide, shorter than the others by a little .. .. *thoreauini* Girault.

COCCOPHAGOIDES new genus.

Type: Coccophagus abnormicornis Girault.

Coccophagus singularis and *C. regulus* belong here.

The genus differs from *Coccophagus* in having a markedly tapering flagellum, the first funicle joint abruptly shortened and the marginal vein *distinctly* shorter than the submarginal.

Genus PHYSCUS Howard.

1. PHYSCUS NIGRICLAVUS new species of Girault and A. P. Dodd.

Female:—Length, 1.15 mm.

Like *nigriceps* Girault but only the hind coxa black and the club and funicle 1; the fore wings are slenderer and longer; the abdomen also appears slenderer and the hind femora are much slenderer. Funicle joints subequal, longer than the short pedicel, each about twice longer than wide. Distal club joint longer. There is a black dot on pronotum caudolaterad.

From one female taken by sweeping in forest, January 2, 1913 (A. P. Dodd).

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 2943,* Queensland Museum, Brisbane, the specimen on a slide.

A second female, same place, June 10, 1914 (A.A.G.). The base of the abdomen on each margin was fuscous in this specimen.

2. PHYSCUS FLAVICEPS new species of Girault and A. P. Dodd.

Female:—Length, 1.10 mm.

Like *nigriclavus* but only the distal funicle joint is white and the body is unmarked; funicle joints subequal, pedicel blackish above. Otherwise identical or nearly.

From one female caught by sweeping foliage, edge of jungle, November 1, 1913 (A. P. Dodd).

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 2944,* Queensland Museum, Brisbane, the specimen on a slide.

3. PHYSCUS DECEMGUTTATUS new species of Girault and A. P. Dodd.

Female:—Length, 1.25 mm.

Exactly similar to *nigriceps* but the distal cross-band of abdomen is absent, that across base fainter and from the base along each side there is a longitudinal row of five quadrate, black spots, the line not reaching the anal spiracles. Pedicel white.

From one female taken in jungle, November 15, 1913 (A. P. Dodd).

Habitat: Harvey's Creek (Cairns), Queensland.

Type: No. *Hy 2945,* Queensland Museum, Brisbane, the specimen on a slide.

4. PHYSCUS SUPERBUS new species of A. P. Dodd and A. A. Girault.

Female:—Length, 1.60 mm.

Reddish brown, the scutum somewhat darker; the face lighter, the dorsum of abdomen intense lemon yellow, margined with dusky and with an obscure dusky cross-stripe beyond the middle; sides of thorax more or less yellow; trochanters, apices of tibiæ and the tarsi white, also the apical half of antennal scape, apical half of pedicel and the second funicle joint, the rest of antennæ dusky black. Eyes greenish; fore wings hyaline, broad, very densely ciliate.

Middle tibial spur long and stout, the middle tarsi short and thickened. Pedicel somewhat shorter than funicle 1, which is distinctly shorter than 2, 3 a little shorter than 2; the first club joint as long as preceding joint, the second longer.

From one female caught by sweeping in forest, August 5, 1913 (A. P. Dodd).

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 2946*, Queensland Museum, Brisbane, the specimen on a tag; head on a slide.

5. PHYSCUS MULTICOLOR new species.

Female:—Length, 1 mm.

Black, the wings hyaline, the abdomen and legs golden yellow (coxæ not distinctly seen); antenna snow white except funicle 1, club 1 and proximal third of second club joint, which are black. Thorax densely longitudinally shagreened. Funicle joints lengthening a little distad in succession, each somewhat less than twice longer than wide, each somewhat longer than the pedicel, distinctly shorter than club 2. Scape dusky. Proximal club joint a little shorter than any of the funicle joints. Ring-joint present.

From one female taken in jungle, March 6, 1914 (A. P. Dodd).

Habitat: Cooktown, Queensland.

Type: No. *Hy 2947*, Queensland Museum, Brisbane, the above specimen on a slide.

6. PHYSCUS ADDISONI new species.

Female:—Length, 0.75 mm.

Dark metallic purple and very finely, densely scaly, the fore wings slightly infuscated throughout. Legs and abdomen intense golden yellow, the abdomen dorsad at meson a short distance before tip with a short, thick, slightly curved conspicuous black cross-marking. Distal fifth of the slender scape, pedicel, ring-joint and funicles 2 and 3 pure white; club suffused with whitish distad; funicle 1 a little longer than 2 which is subequal to 3, the first funicle joint distinctly longer than wide, distinctly longer than the pedicel; club 1 distinctly longer than 2. Caudal wings short, broad, with about six lines of scattered discal cilia, their caudal marginal cilia not long but distinctly longer than that of the fore wing. The latter densely, uniformly, finely ciliate discally. Staining obscurely deeper under whole of the marginal vein. Caudal legs dusky. Middle tibial spur short, rather stout. Axillæ very widely separated. Antennæ with a short ring-joint.

From one female caught in forest, May 2, 1914 (A. P. Dodd).

Habitat: Tweed Heads, New South Wales.

Type: No. *Hy 2948*, Queensland Museum, Brisbane, the specimen on a slide.

Dedicated to Joseph Addison.

7. PHYSCUS POPEI new species.

Female:—Length, 0.90 mm.

Deep orange yellow, the wings hyaline; funicle 1 and the club jet. Funicle joints subequal, each somewhat longer than wide, barely longer than the pedicel, somewhat shorter than either club joint. Valves of ovipositor extruded a little. Mandibles bidentate. One ring-joint. Legs pallid white, all tibiæ dusky at base and most of hind femur, all lightly so. Fore wings densely, finely ciliate, the marginal cilia short. Venation pallid. Hind coxa dusky at base. Propodeum dusky laterad.

From one female caught in forest on sand-ridges near coast, May 9, 1914 (A. P. Dodd).

Habitat: Chindera, New South Wales.

Type: No. *Hy 2949*, Queensland Museum, Brisbane, the specimen on a slide.

The fore wings are somewhat wider and more densely ciliate than those of *nigriclavus* and the funicle joints are distinctly shorter. The types compared. The species *nigriclavus* also bears the ring-joint.

The species is dedicated to Alexander Pope.

GENUS ENCARSIA Foerster.

1. ENCARSIA CYBELE Girault.

Antea, p. 186, line 7 of description, *plainly* read *obscurely*.

2. ENCARSIA WHITTIERI new species.

Female:—Length, 0.70 mm.

Golden yellow, the head, pronotum and cephalic scutum obscurely, dusky; meso- and metapleura, propodeum except at meson and somewhat less than proximal half of abdomen, black, the distal margin of the black abdomen prolonged at meson in the shape of a round spot. Legs white, antennæ pale yellow, filiform. Fore wings broad, uniformly, densely ciliate discally (about 25 lines), the marginal cilia short; dusky across triangularly from the base of the marginal vein. Proximal tarsal joint elongate. Funicle 3 longest of the flagellum, thrice longer than wide, 1, 2 and 3 subequal, each a little longer than the pedicel; both club joints longer than wide, a little shorter than funicle 3. Mandibles weakly tridentate.

From one female taken May 2, 1914, by sweeping in jungle (A. P. Dodd).

Habitat: Tweed Heads (Tweed River), New South Wales.

Type: No. *Hy 2950*, Queensland Museum, Brisbane, the specimen on a slide with the type of *Coccophagus thoreauini* Girault.

GENUS ASPIDIOTIPHAGUS Howard.

1. ASPIDIOTIPHAGUS CITRINUS (Craw.).

One female from a window, Ingham, Queensland, February 17.

"Female.—Length, 0.58 mm.; expanse, 1.16 mm.; greatest width of fore wing, 0.09 mm. Antennæ light yellow brown; eyes black, ocelli bright red; head yellow; occiput dark brown; pronotum dark brown; mesonotum yellow; metanotum yellow brown; abdomen brown; legs uniformly dusky yellow; wings with marginal vein dark fuscous, and a broad fuscous band extending directly across wing from marginal vein as a base. Spiracular hairs on preanal abdominal joint very long. Thorax somewhat wider than head or abdomen, these being subequal in width."

2. ASPIDIOTIPHAGUS AUSTRALIENSIS Girault.

Length, 0.60 mm. The type is on a slide and was captured at 1,500 feet, May 29, 1913.

GENUS ABLERUS Howard.

1. ABLERUS SPECIOSUS Girault.*

Length, 0.60 mm., excluding ovipositor. The type locality is Gordonvale. The parapsides are probably white, rapidly fading after death. Funicle 1 subequal to pedicel which is dusky at base. Ovipositor extruded for about a fifth the length of the abdomen. A patch of about four short lines of coarser cilia under end of marginal vein. Funicles 2 and 4 each a little longer than 1. The type was reared from lecanium scales on a forest bush, December 4, 1912. A second female was obtained on the 17th following from cockatoo apple infested with a *Chionaspis*, Gordonvale. Also, a female from Port Darwin, Northern Territory, November 10, 1913, forest (G. F. Hill).

A male reared with two females from the coccid on cockatoo apple in November, 1913 at Gordonvale, bore slenderer antennæ than in the female, the club longer, apparently 2-jointed but no articulation is present. The antennal segments are as in the female but there are two minute ring-joints; funicle 3 is smaller and black while the others are longer.

* The head is white with a silvery band across just under the eyes followed by a narrow metallic greenish stripe.

2. ABLERUS PAN Girault.

A female, forest, Capeville (Pentland), Queensland, January, 1913. The mandibles are tridentate. The third tooth obtuse and shorter. Type re-examined.

3. ABLERUS SEMIFUSCIPENNIS (Girault).

Length, 0.75 mm., excluding ovipositor which is extruded for a third the length of the abdomen. Pedicel black at base above, the scape dorsad; mandibles tridentate; longest marginal cilia of fore wing a little shorter than those of hind wing. Distal margin of wing fumation straight. The type is on a slide and was taken February 17, 1913.

4. ABLERUS SPECIOSISSIMUS (Girault).

Length, 1 mm., exclusive of ovipositor which is extruded for one fourth the length of abdomen. Mandibles and antennæ as in *semifuscipennis*. The type was taken in forest, January 27, 1913 and is on a slide.

5. ABLERUS VENUSTULUS new species.

Female:—Length, 0.85 mm.

Running to *speciosus* but differing in having a distinct black stripe across fore wing from all (or nearly) of the marginal vein and the femora are black except at each end (cephalic femora all white in *speciosus*, the cephalic tibiæ and other femora and tibiæ with a distinct black band around them, rather broad, near knee); the tibiæ in this new species are white excepting just below knees. Also close to *piceipes* but the broad wing stripe in that species is faint, its first funicle joint is short yet longer than the second and the tibiæ are black except at each end. Here, the first joint of funicle is longer yet somewhat shorter than the second which is longest; longest marginal fringes of fore wing somewhat over a fourth the greatest wing width. Mandibles 4-dentate, the inner tooth formed by an emargination of the apical margin of the third tooth. Valves of ovipositor concolorous.

Described from one specimen captured by sweeping in the forest, November 1, 1913.

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 2951*, Queensland Museum, Brisbane, the above specimen on a slide with a female of the following species.

6. ABLERUS UNNOTIPENNIS new species.

Female:—Length, 1.20 mm.

Like *speciosissimus* but on the fore wing there is only a rather long wedge-shaped spot somewhat caudad of apex of marginal vein and extending a little beyond the midlongitudinal line. Head white, metallic green below antennæ (face).

From one specimen captured with *venustulus*.

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 2952*, Queensland Museum, Brisbane, a female on a slide with *venustulus*.

7. ABLERUS PICEIPES Girault.

Female:—Length, 0.50 mm.

Very similar to *poincarei* Girault but differing in the following particulars: The marginal fringes of the fore wing are longer (nearly two thirds the greatest width of the wing, in *poincarei* plainly not much over a third), the fore wing is lightly dusky under all of the marginal vein, margin to margin, no oblique cross-stripe indicated; the first funicle joint is not much longer than wide though plainly longer than wide; the pedicel is shorter and also the ovipositor.

Described from one female captured from the foliage of gum in October, 1913 (A. P. Dodd).

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 2953*, Queensland Museum, Brisbane, the above specimen on a slide (with two females of *Brachychrysocharella dubia* Girault).

8. ABLERUS BÆUSOIDES new species.

Female:—Length, 0.50 mm. Very short and compact.

Wholly dark blue-black except first four tarsal joints and joints 2 and 4 of the funicle. Fore wings deeply embrowned as in *nympha* but the fumation is very convex distad extending nearly to apex, leaving apical margin and the portion of cephalic margin around to stigmal vein, subhyaline. Hind wings more lightly stained and not as far distad. Discal cilia of fore wings very fine, barely visible, the marginal cilia short, longest around apex, very much as in *clisiocampe* Ashmead (both wings). Body finely lined, the mesopleurum coarser. Mandibles tridentate. Extruded portion of ovipositor valves short, white, black at tips. Antennæ much as 1 figured for *clisiocampe* but funicle 4 is a little shorter than 2. Evidently closely allied with the North American *clisiocampe* but the tips of tibiæ are not silvery white, the club is uniformly dark, the extruded valves of the ovipositor are white except at tips and the wings are infuscated somewhat farther distad. The very short form (from dorsal aspect almost round without the head) is also characteristic. Of the Australian species closest to *nympha* from which it may be easily distinguished.

From one female taken by sweeping in forest, September 2, 1913.

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 2954*, Queensland Museum, Brisbane, the specimen on a slide.

9. ABLERUS SOCRUS new species.

Female:—Length, 0.58 mm.

In my table of species runs to *hyalinus* but much smaller, the funicle is wholly white (joints 1 and 3 in *hyalinus* dusky), funicle 4 is somewhat shorter, only slightly longer than wide; funicle 1 a little longer than 2 (a little shorter in *hyalinus*); the mandibles are smaller and the marginal fringes somewhat longer (in *hyalinus* somewhat less than a third the greatest wing width). Otherwise the same except that the head is wholly white except lower margin of face and margins of occiput and the stripe across at antennæ. There is a distinct narrow silvery cross-stripe just caudad of scutellum. Fringes of fore wing moderate, somewhat over a third the greatest wing width. Wings hyaline and apparently different from those of *hyalinus* in that there are not several lines of coarse cilia just proximad of stigmal vein.

From two females taken in forest, April 16, 1914 (A. P. Dodd).

Habitat: Cloncurry, Queensland.

Type: No. *Hy 2955*, Queensland Museum, Brisbane, a specimen on a slide with type *Archenonus albifemur* Girault.

10. ABLERUS HOWARDII new species.

Female:—Length, 0.60 mm.

In my table of species runs to *pcincarei* from which it differs in having the fore wings hyaline. Differs from *piccipes* in the clear wings and the shorter marginal fringes of the fore wing. Valves of ovipositor black at tip. Club somewhat stouter than usual. Vertex white. Funicle 1 a little longer than wide, shorter and narrower than the pedicel, 2 subquadrate, also 4 but the latter distinctly wider than the others. Longest marginal fringe of fore wing about a fourth the greatest wing width.

From one female caught by sweeping in forest, April 16, 1914 (A. P. Dodd).

Habitat: Cloncurry, Queensland.

Type: No. *Hy 2956,* Queensland Museum, Brisbane, the female on slide with type *Coccophagus perpulchellus* Girault.

Dedicated to Leland Ossian Howard.

GENUS PLASTOCHARELLA Girault.

Antea, p. 195, line 3 of the description, the second *with* read *without.*

1. PLASTOCHARELLA FUSCIPENNIS Girault.

Length, 1.05 mm. Infuscation of fore wing deeper under the marginal vein. The type was taken, February 16, 1913 from a window and is on a slide.

2. PLASTOCHARELLA INCONSPICUA new species.

Female:—Length, 0.50 mm.

Brownish black, the wings lightly stained from base of marginal vein to apex, naked proximad from the same point. Pedicel elongate, longer than the funicle, the three joints of the latter subquadrate but 1 a little longer than the other two which are slightly wider than long. Club longer than the rather short scape which is only somewhat longer than the pedicel. Median groove on thorax not seen. Submarginal vein distinctly longer than the marginal. Legs dusky black.

Much smaller than *fuscipennis* and uniform in color, the marginal vein shorter (somewhat longer than the submarginal in the genotype), nearly the proximal half of fore wing is naked and clear, the club is distinctly longer than the funicle and the pedicel is long. The marginal fringes of fore wing are twice longer than is the case with the genotype where they are very short. In *fuscipennis* the pedicel is plainly shorter than the funicle.

From one female caught by sweeping in forest, January 16, 1913.

Habitat: Magnetic Island (Townsville), Queensland.

Type: No. *Hy 2957,* Queensland Museum, Brisbane, the specimen on a slide with type appendages of *Anastatus insularis* Girault.

3. PLASTOCHARELLA MAXIMA new species.

Female:—Length, 1.85 mm., excluding the shortly exserted ovipositor.

Jet black, tip of abdomen, the legs except hind coxæ and a broad band around the base of the abdomen, silvery white; lower part of face (suffused), caudal half of scutum, much of parapsides and the narrow median groove of thorax, dull yellow. Wings infuscated as in *fuscipennis.* Mandibles tridentate. Funicle 3 distinctly the longest, 2 shortest, a little longer than wide, 1 distinctly longer than wide but not much longer than 2 yet wider; club longer than the funicle. Thorax very finely lined. Strigils distinct, tarsi as in the Elasmidæ; middle tibial spur not especiallly stout; hind tibial spurs double. Abdomen slender, conic-ovate, longer than rest of the body. Antennæ inserted down near the mouth, the scape long and slender. Venation much as in *Coccophagus,* the stigmal vein minute. Fore wings distinctly broader than with *fuscipennis*; in both species, they are subhyaline proximad of the marginal vein. Mesopleurum rather flat, divided by a suture transversely as usual in Chalcids.

This is an enormous member of the subfamily.

From one female caught in jungle, December 27, 1913 (A. P. Dodd).

Habitat: Harvey's Creek (Cairns), Queensland.

Type: No. *Hy 2958,* Queensland Museum, Brisbane, the specimen on a tag; head on a slide.

In *fuscipennis,* the club is subequal in length to the funicle.

MYOCNEMELLA new genus.

For description, see *antea*, p. 195.

GENUS MYIOCNEMA Ashmead.

1. MYIOCNEMA MARMORATIVENTRIS new species.

Female:—Length, 0.80 mm. With the habitus of *Aphelinus*.

Pale golden yellow, the abdomen dark brown except along the sides and marked with pale golden yellow as follows: A narrow stripe across base with a nipple-like prolongation at meson distad, three round marginal spots, the distal one smallest (a dot) and at apex of proximal two thirds, a very narrow cross-stripe at apex of proximal three fourths and two more distinct cross-stripes following the one at base, both broadly interrupted at the meson or subinterrupted; these two stripes join the first and second marginal spots. Propodeum dark brown from lateral margin half way to meson, the spiracle appearing like a minute yellow dot. Thorax scaly reticulate; without a median sulcus. Club somewhat longer than the funicle, subequal to the scape, the pedicel over half the length of the funicle; funicle 1 ring-like, 2 twice the length of 1, 3 a little wider than 2, 4 largest, somewhat wider than long and about a fourth the length of the club. Fore wings as in *Aphelinus* but without a hairless line, the discal ciliation fine, dense, disappearing proximad of the origin of the marginal vein; a line of long stout bristles along submarginal vein and two shorter lines of similar bristles just caudad of the submarginal vein. Marginal cilia of fore wings short. Caudal wing short and broad. Club 1 subquadrate, 2 conical and somewhat longer. Scape a little compressed. Mandibles bidentate, the second tooth truncate. Hind tibia dorsad, armed with long stiff bristles. Legs normal; middle femur with a long bristle ventro-laterad just before knee. Fore wings hyaline, the venation transparent, the marginal vein only a little over half the length of the submarginal. Hind femora compressed, the tibial spur single; middle tibial spur long and slender Antennæ shaped like those of *Aphelinus*.

In one antenna the club is solid!

Habitat: Gordonvale (Cairns), Queensland, forest, December 9, 1913.

Type: No. *Hy 2959*, Queensland Museum, Brisbane, the specimen on a slide.

GENUS ANERISTUS Howard.

This genus differs from *Coccophagus* Westwood in having the scape short, the flagellum strongly flattened, the hind tibiæ flattened and with a row of short bristles dorsad.

1. ANERISTUS FUMOSIPENNIS new species of Girault and A. P. Dodd.

Female:—Length, 0.80 mm.

Differs from the generic diagnosis in bearing a short ring-joint; the club is not very well differentiated from the funicle. Like *Coccophagus* Westwood, except the antennal differences (the flagellum compressed somewhat, presence of ring-joint) and the flattened apex of hind tibiæ.

Wholly dark metallic purple, the legs and antennæ concolorous, excepting most of cephalic tibiæ, distal half of intermediate tibiæ and the tarsi, which are yellowish white. Fore wings with a conspicuous smoky-black blotch under the marginal vein, the area large, projecting convexly beyond the venation, its proximal margin obliquely truncate from about proximal third or more of the marginal vein. Intermediate tibial spur stout, as long as proximal joint of intermediate tarsi. Mandibles bidentate, the broad inner tooth emarginate, so that a total of three teeth are nearly formed. First funicle joint longest, distinctly longer than

wide; 3 subquadrate, subequal to the pedicel; distal club joint with a nipple-like end due to termination of the vestiture before tip. Body finely reticulated. Hind wings broad, with about a dozen lines of fine, uniform discal cilia.

Male:—The same but the wings hyaline, the pedicel globular, the joints of the flagellum longer.

Described from two males, seven females, received from Mr. G. F. Hill, Government Entomologist, Northern Territory, and labelled "No. 15. Bred from unidentified coccid. 18-viii-13."

Habitat: Northern Territory (Port Darwin).

Types: No. *Hy 2960,* Queensland Museum, Brisbane, two males, one female on a slide with miscellaneous fragments and five females together on a tag.

Several females, type locality, October 10, 1913 and two males, three females reared from coccids on custard apple, Stapleton, N.T., February 4, 1913 (G. F. Hill). A common species.

2. **ANERISTUS DIABOLICUS** new species.

Of the same appearance and stature as *fumosipennis* but differing in the spot on the fore wing which is shorter, its proximal margin straight (not oblique as in the other species), its conical projection distad shorter, a flat convexity rather than a truncated cone and the spot is therefore a little wider than long rather than somewhat wider than long. Also the scape and cephalic knees and tibiæ are white and all of middle tibiæ except slightly just distad of knee (in *fumosipennis,* the proximal half of middle tibia is black). Finally, funicle 1 is barely longer than wide, 2 and 3 somewhat wider than long. Compared with types of *fumosipennis.*

From one female caught by sweeping at Halifax, April, 1914 (A. P. Dodd).

Habitat: Halifax (Ingham), Queensland.

Type: No. *Hy 2961,* Queensland Museum, Brisbane, the female on a slide.

Tribe PTEROPTRICINI.

APTEROPTRIX new genus.

Differs from *Archenomus* Howard in that the club is 3-jointed, the first and second funicle joints are not ring-like and the marginal cilia of the fore wing are long.

1. **APTEROPTRIX ALBIFEMUR** new species. Female. Genotype.

Differs from the second species in that the legs are white except the coxæ and the hind femur above at middle, there is no hairless line back from the venation, the wing is less distinctly infuscated caudad of the venation and the mandibles are bidentate. Funicle 1 and 2 subequal, somewhat longer than wide, 3 slightly longer and subequal to the pedicel. Club well defined. Club joints each longer than the pedicel. A naked space distad of venation in both species.

Described from one female captured by sweeping in forest.

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 2962,* Queensland Museum, Brisbane, the female on a slide.

2. **APTEROPTRIX NIGRA** (Girault).

Casca nigra Girault. *Antea,* p. 198, line 2 following the description the words *the male of Casca agrees with the female of Archenomus* should be omitted. The female antennæ were erroneously described, there being three funicle joints of which 2 is intermediate between 1 and 3, the latter longest, a little longer than wide. The club is distinctly 3-jointed. Type re-examined.

GENUS ARCHENOMUS Howard.

Antennæ 8-jointed, the club apparently 2-jointed; funicle joints 1 and 2 very short, 3 and 4 each longer than 1 and 2 together. The following species is, more or less, doubtfully included.

1. ARCHENOMUS BIGUTTATUS new species.

Female:—Length, 0.77 mm.

Black, the scutum and scutellum silvery white, the former with a large, wider than long black area from cephalic margin across meson of more than cephalic third; axillæ black, forming a lateral pair of roundish spots on middle of thorax. Scutellum (apparently) with a narrow lateral groove. Cephalic femora, cephalic and intermediate tibiæ and the tarsi whitish; tips of caudal tibiæ whitish; antennæ pale yellow, the scape and pedicel black. Fore wings with a distinct dusky stripe across from the marginal vein, the stripe accented just caudad of apex of that vein, the latter rather thick, distinctly shorter than the submarginal and practically truncate at apex, the stigmal vein obsolete. A naked area on fore wing just disto-caudad of apex of venation. Marginal fringes of fore wing tolerably short, not more than a fifth the greatest wing width, shorter than the caudal fringes of the hind wing; the latter with a pair of lines of discal cilia which fade distad, the base of the blade infuscated. Vertex yellowish. Eyes bulging, coarse, round. Flagellum filiform, no distinct club, the second funicle joint like a thick ring-joint, not half the length of the small pedicel, the other flagellar joints long, subequal, each somewhat over twice longer than wide and longitudinally striate. Mandibles broadly truncate but with a median sinus. Scape only slightly longer than funicle 1. Antennæ 9-jointed, with the ring-joint.

From one female caught in forest, May 15, 1914 (A. P. Dodd).

Habitat: Chindera (Tweed River), New South Wales.

Type: No. *Hy 2963*, Queensland Museum, Brisbane, the female on a slide.

NEOCASCA new genus.

Female:—Differs from *Bardylis* Howard in bearing a ring-joint in the antenna and in having the fore wings normal, that is, not long and curved and without long marginal cilia. Marginal vein distinctly much shorter than the submarginal. No hairless line. Middle tibial spur small. Ovipositor inserted a little proximad of middle of abdomen. Scutellum distinctly wider than long. Marginal vein nearly thrice the length of the short stigmal. A short phragma present.

1. NEOCASCA MULTIGUTTATA new species.

Female:—Length, 0.68 mm.

Golden yellow, the abdomen pale yellow, the wings hyaline, the legs concolorous, the antennæ a little dusky. Hind femur at proximal half and the coxæ washed with dusky. A flat triangle on pronotum at meson, the axillæ (or at least a large elliptical spot apparently upon them or covering them) and most of mesopleurum, jet black. Abdomen broadly dusky down the meson and with five marginal spots from base to apex, dusky black. Legs pallid, also the venation. Fore wings with about 22 lines of minute, rather dense discal cilia. Proximal joint of middle tarsi distinctly longer than the others. Antennæ inserted not far from the mouth, 8-jointed, the funicle 2-jointed, the club distinct, longer than the funicle whose joints are a little longer than wide (joint 1) and somewhat wider than long (2); pedicel a little longer than funicle joint 1. Scape moderate. Mandibles bidentate, the second tooth obliquely truncate, broad.

From one female caught in forest, April 16, 1914 (A. P. Dodd).

Habitat: Cloncurry, Queensland.

Type: No. *Hy 2964*, Queensland Museum, Brisbane, the specimen on a slide.

I have frequently mistaken members of this group for true encyrtids. Several genera in the Taneostigminæ resemble genera in this group very much and there are seemingly intergrading forms. In the cases of species of *Aphelinus, Coccophagus* and *Physcus* I have been puzzled in regard to which group they should be classed. The Aphelininæ frequently have the mesopleurum entire, the antennæ are inserted below the middle of the face, the middle tibial spur is frequently elongate (but usually slender), the mandibles are 2- or 3-dentate, the form short and compact and the tarsi usually 5-jointed. Four-jointed tarsi are not exceptional in the Encyrtidæ. The wings here are frequently with an oblique hairless line, ring-joints are usually absent, jumping is usual and the hosts are coccids. Moreover, the variety of form and markings is great.

These characters certainly approach very closely those of the Encyrtidæ.

A minute, wingless male of the Aphelinini, with antennæ about as in *Eretmocerus*, is native to the jungle of North Queensland.

Subfamily SIGNIPHORINÆ.

Genus SIGNIPHORA Ashmead.

1. SIGNIPHORA AUSTRALIENSIS Ashmead. Female; male.

I give the recent review of this species in my A Systematic Monograph of the Chalcidoid Hymenoptera of the Subfamily Signiphorinæ (Girault, 1913).

"*Signiphora australiensis* Ashmead, 1900, pp. 409, 410.

The original description of this species is exactly as follows:

Female.—Length, 0.60 mm. Æneous black, the mesonotum with a bronzy tinge, the scutellum with a slight bluish tinge; legs black, a spot on knees and tarsi white or yellowish white, the anterior tibiæ yellowish beneath; wings fuscous with a hyaline band across the disk from apex of the marginal vein.

Type.—Cat. No. 4771, U.S.N.M.

Habitat.—Australia (Albert Koebele, collector).

Host.—Rhynch.: Sp. not identified.

By studying the types I am enabled to offer the following additional descriptive details: Like *nigra* but differing colorationally in that the head and thorax are metallic to some extent, the vertex and mesonotum distinctly metallic green (but not in balsam mounts), the latter finely transversely lined; body finely polygonally sculptured, including the abdomen (the sculpturing not distinct in balsam mounts); the fore wings differ as described—they are embrowned throughout, but somewhat distad of the middle there is a broad clear band, subcrescentic in shape and touching the costal margin at the apex of the stigmal vein. This area is broader at the caudal margin than at the cephalic one, barely reaching the latter; the stigmal vein differs in that it is like a short conical prolongation bending off slightly from the marginal; thus it is short and much broader at its point of origin than is the case with that of *nigra*. Like *nigra*, there is also a clear area proximad, but this is somewhat more prominent with this species. (See beyond.) The male is like the female.

The species has not been mentioned again in the literature; it is variable as will be shown later.

I have studied the following specimens: The tag-mounted types now remounted in xylol-balsam; these were and are labeled '*Signiphora australiensis* Ashmead, female. Type No. 4771, U.S.N.M. Australia. Koebele, 12.' The type consists of three females. Also a slide from the collections of the United States Department of Agriculture, Washington, District of Columbia, bearing 2 males and 12 females and labeled '1849. Acanthococcid on *Eucalyptus*. Gosford, N.S.W., Nov. 1899. A. Koebele.' These specimens varied considerably in the fumation of the fore wing and in the length of the marginal fringes. In all of them the latter were distinctly shorter than in the type specimens, while the majority of the specimens

showed the clear, subhyaline band at the middle very indistinctly, not clear cut as in the type specimens excepting with several of them. Casually, in most of these specimens, the fore wings appeared to be fumated throughout, the cloudiness gradually fading out distad. I have since captured a female specimen of this species on a window of a barn at Roma, Queensland, October 6, 1911.

Habitat.—Australia—New South Wales (Gosford); Queensland (Roma).

Host.—Acanthococcid on *Eucalyptus.*

Types.—The three females as indicated in foregoing.''

A female was taken from a window, November 2, 1912 at Proserpine, Queensland. The propodeum is delicately polygonally reticulated.

A. SIGNIPHORA AUSTRALIENSIS ORBICULATA new variety. Male.

Differs from the typical form in that the distal fumation of fore wing consists of a large circular spot centrally, the surrounding portions hyaline.

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 2965*, Queensland Museum, Brisbane, the specimen on a slide.

2. SIGNIPHORA ASPIDIOTI Ashmead.

The recent treatment of this species is also quoted from Girault (1913).

'' *Signiphora aspidioti* Ashmead, 1900, pp. 409, 412.

On the same page that *coquilletti* was described, Ashmead described a new species under the name of *aspidioti* in the manner quoted below. This species is identical with *coquilletti* structurally, but differs in that the distal half of the antennal club is dusky, a phenomenon not observed in the series of specimens of *coquilletti* examined by me but which would be expected to occur in a number of specimens if it was merely an incidental variation. I cannot do otherwise than consider *aspidioti* valid. Its original description was in this manner:

Female.—Length, about 0.50 mm. Lemon or golden-yellow, head faintly dusky above; apical half of antennal club, anterior half of mesonotum, and a broad transverse band at base of abdomen, including nearly half its length, dark brown; wings with a broad fuscous band, as in previous species.

Type.—Cat. No. 4859, U.S.N.M.

Habitat.—Mexico: San Louis.

Host.—Rhynch: *Aspidiotus nerii* Bouché (= *hederæ* Vall.). Bred November, 1894 by Tyler Townsend.

Besides the type specimen, I found another female specimen of it in the collections of the United States National Museum labeled ' 470^{22}. Bred from *Aspidiotus nerii* (= *hederæ* Vall.), San Luis, Mex., November, '94.' This specimen is evidently an original one. I have labeled it as a *homotype.* The antennal club in *aspidioti* is more clavate and longer than that of *coquilletti* apparently. The single type female is labeled as the specimen just noted, and, additionally, ' 4859,' the type number.''

Two females were taken from windows, Gordonvale (Cairns), Queensland, August 3 and October 9, 1912. This is the first Australian record. Later, a female was captured from a window of an empty dwelling at Ingham, Queensland, in February, 1913.

3. SIGNIPHORA RETICULATA Girault. Female.

The original description of this species is quoted.

'' Length 0.80 mm. Moderate in size for the genus.

Black, the head and thorax dark metallic green, the wings perfectly hyaline, with no proximal fumation. Venation, legs and antennæ brownish black. Proximal three tarsal joints and much of the cephalic tibia, yellow. Mesonotum and vertex, finely, transversely lined. Abdomen, the rectangular (wider than long) scutellum, the transverse mesopostscutellum and

the triangular propodeum all similarly distinctly polygonally reticulated. Discal bristle absent. Stigmal vein conical. Marginal fringes of the fore wing very short, those of the posterior wings slightly longer, the latter wings very broad, where widest full three-fourths the width of the fore wings. Antennal club conic-ovate and moderate in length.''

Described from a single female specimen captured in forest, November 6, 1912.

Habitat: Ayr, Queensland. Also, Gordonvale, forest, January.

Type: No. *Hy 1231*, Queensland Museum, Brisbane, the specimen on a slide.

'' Belongs to the *nigra* group and to that section of it where the marginal fringes are very short. Closely allied with the Australian species *corvina* Girault from which it differs in bearing hyaline wings, narrower fore wings and in being much less robust. The species *funeralis* has decidedly longer marginal fringes and its wings are deeply fumated throughout.''

A second female was captured in the forest at Gordonvale in January.

4. SIGNIPHORA FUNERALIS Girault. Female.

This species was recently described in the following words (Girault, 1913).

'' Length, 0.55 mm.; moderately small for the genus. General color uniformly black, slightly suffused with brownish and distinctly metallic on head and mesoscutum, the metallic coloration being bluish green; antennæ and legs nearly concolorous, sooty black, the tarsi pallid yellow. Eyes dark red. Fore wings distinctly fumated throughout, but the sootiness gradually deepens proximad; there at the caudal wing margin caudad of the distal portions of the submarginal vein is a longitudinal clear area, subrectangular in shape.

Belongs to the *nigra* group and to that section of it including those species bearing short marginal fringes at the apex of the fore wing, namely, *nigra* Ashmead, *australiensis* Ashmead and *dactylopii* Ashmead, and more closely allied with the first. However, it differs from it as follows: The fore wings are fumated continuously throughout, the body bears metallic coloration, the marginal fringes of the fore wing at apex are somewhat shorter. With the two other species it need not be confused. As concerns the other species of the *nigra* group, namely *noacki* Ashmead, *maxima* Girault, *pulchra* Girault and *nigrella* Girault, *funeralis* should not be confusable, since all of these species bear much longer marginal ciliation on the fore wings; specifically, in general coloration it differs from all of these species excepting *pulchra* because the fore wings are nearly uniformly fumated throughout; from *pulchra* it may be distinguished also by means of the pallid tarsi, the broader wings, the absence of the discal bristle and so on.

Antennal club not unusually long, conic-ovate and about four times longer than its greatest width; fore wings moderately broad, their longest marginal cilia somewhat less than half their greatest width; discal bristle absent. Posterior wings moderate in width, not as wide as their longest marginal cilia. Oblique hair-line crease of fore wing slightly indicated, present but faint.''

Habitat: Herberton, Queensland. December 28, 1911.

Type: No. *Hy 771*, Queensland Museum, Brisbane, the single female on a slide (with several trichogrammatids and an *Anagrus*).

5. SIGNIPHORA CORVINA Girault. Female.

I quote from Girault (1913).

'' Length, 1.10 mm.; large, robust.

General color deep black, tinged on the head and thorax with metallic bluish green, the whole of the mesonotum thus colored; legs, antennæ and venation brownish black, but the tarsi and cephalic tibiæ interiorly yellow brown. Fore wings hyaline excepting along about the proximal half, or out not quite to the end of the venation. The stained proximal area of the wing is peculiar; thus its distal margin is obliquely (caudo-proximad) truncate, the caudal

midlongitudinal (nearly) half being more clear. Hence, somewhat as in *melancholica*, the fumation is under the venation extending caudad somewhat beyond the midlongitudinal line of the blade. It is longer, however, than the clouded area of the species named. Distal tarsal joints only slightly darker.

Belongs to the *nigra* group and to that portion of it including *funeralis*, *australiensis*, *nigra*, and *dactylopii* but is more closely related to the last named two. It differs from *nigra* in that the fore wings are fumated somewhat farther distad (nearly to the apex of the stigmal vein), the body is metallic on the head and thorax, finely, transversely lined at the mesonotum and more robust. From *dactylopii* it differs as much as it does from *nigra;* however, the fumation of the fore wing does not form a band across the wing from the marginal vein but is quite different and distinct.

The fore wings are broad, their marginal cilia very short, subequal in length to the stigmal vein, somewhat shorter at the apex; oblique crease slightly indicated; discal bristle absent; stigmal vein straight, a conical prolongation of the marginal vein. Posterior wings very broad, two-thirds the width of the broad fore wing, which is only twice longer than broad.

Marginal fringes of posterior wings subequal in length to those of the fore wing. Mandibles bidentate. Proximal joint of cephalic tarsus only half the length of the same joint of the caudal tarsus. Antennal club stout, conic-ovate, bearing a number of short longitudinal sulci, which are arranged in three circular groups along the joint, giving the appearance (casually) of three joints; the club only about two and a half times longer than wide (its greatest width at apex of proximal third).''

Habitat: Roma, Queensland. October 6, 1911.

Type: No. *Hy 772*, Queensland Museum, Brisbane, the single female on a slide.

6. SIGNIPHORA AUSTRALICA Girault. Male.

The following summarizes all that is known of this species (Girault, 1913), except two locality records added later.

'' Length, 0.54 mm.; moderately small for the genus.

General color black, the vertex and mesonotum metallic bluish green, the antennæ, venation and caudal femur sooty black, the tarsi and remainder of legs pallid yellowish, the distal tarsal joint not much darker if at all; fore wings fumated throughout, the proximal fumation (out nearly to the end of the marginal vein) deeper, the whole divided somewhat distad of the middle of the wing by a moderately broad subhyaline band which is nearly regular in width and joining the costal wing margin at the end of the stigmal vein; the fore wing is also clear directly beneath the submarginal vein for nearly its whole length.

Belongs to the *nigra* group and that section of it containing those species bearing marginal cilia at the apex of the fore wing which are subequal to or longer than a third of the wing's greatest width, hence allied with *maxima* Girault, *pulchra* Girault, *noacki* Ashmead, and *nigrella* Girault. However, resembling *australiensis* Ashmead and at first mistaken for that species; the transverse clear band is somewhat farther distad (on the costal margin half or more of it extending beyond the apex of the stigmal vein), more uniform and not coming to a point at the stigmal vein; the longer marginal cilia of the fore wing in *australica*, the narrower fore wings, the pallid legs and other characters easily distinguish the two species. Of the four species with which it is allied, it resembles, perhaps, *pulchra* more than the others because of its moderately narrow fore wings, but the discal bristle is absent and the oblique hair-line-like crease but slightly indicated; the legs are much lighter in color. The species need hardly be confused with any other species of the genus, even its closest allies.

Fore wings with the marginal cilia moderately long, those at apex only about slightly over a third of the greatest width and slightly longer than the apical marginal cilia of the

posterior wings; stigmal vein forming a regular concave curve with the inner edge of the marginal vein at its apex, but the curve is not as deep as usual. Posterior wings moderately broad, subequal in greatest width to their longest marginal cilia or slightly more or less than subequal. Antennal club long and moderately stout, spindle-shaped, slightly over four times longer than its greatest width which is near its middle, with no regularly grouped or prominent longitudinal sulci.''

Habitat: Gordonvale (Cairns), Queensland. Two males, December 4 and 21, 1911.

Type: No. *Hy 773*, Queensland Museum, Brisbane, one male on a slide.

A female at Mackay, Queensland, October 19, 1911, and one at Gordonvale (Cairns), January, 1912. In the latter all the femora were dark.

7. SIGNIPHORA RECTRIX new species. Female.

Length, 0.54 mm. Like *aspidioti* Ashmead but the antennal club wholly dusky, the cephalic two thirds of scutum dusky while the abdomen at proximal half is only obscurely dusky, hardly noticeably so, not conspicuously as in *aspidioti*. Also, the fore wings are somewhat narrower, the longest marginal cilia slightly longer than the wing where widest. Legs concolorous. Discal bristle absent.

Habitat: Kuranda, Queensland. Forest.

Type: No. *Hy 2966*, Queensland Museum, Brisbane, the female on a slide.

8. SIGNIPHORA PERPAUCA new species. Female.

Length, 0.69 mm.

Differs from *flavella* Girault in having the pedicel long and slender, about four times longer than wide at tip and from *flava* Girault in having only the abdomen suffused with orange or pinkish, the club pallid, distinctly capped with dusky; and from both in having the cephalic fourth of the scutum dusky black, the fore wings only light brown and solely so under the marginal vein. Discal bristle absent.

Habitat: Seymour (Ingham), Queensland. Forest, February 20.

Type: No. *Hy 2967*, Queensland Museum, Brisbane, the female on a slide.

9. SIGNIPHORA THUSANOIDES new species. Female.

Length, 0.95 mm.

Like *dactylopii* Ashmead but the fuscous stripe across the fore wing is farther distad, nearly half way between apex of venation and apex of blade but a little proximad of half way. Marginal cilia around apex of fore wing a little shorter than the stigmal vein. Proximal joint of hind tarsus a little shorter than the same joint of intermediate tarsus (the two equal in *dactylopii*). Cephalic tibiæ pale yellowish. Mesonotum finely transversely lined. The stripe across the fore wing is rather broad, its lateral margins broken. Discal bristle absent. Hind wings very broad, over half the width of the fore wings. Mandibles bidentate. *Four* ring-joints. Club thrice longer than broad.

Habitat: Gordonvale (Cairns), Queensland. Forest, December 2, 1913.

Type: No. *Hy 2968*, Queensland Museum, Brisbane, one female on a slide.

10. SIGNIPHORA BEETHOVENI new species.

Female:—Length, 1.10 mm. Rather robust.

Dark metallic green, the four proximal tarsal joints pale yellow. In my table of the earth's species (Girault, 1913) runs to *maxima* Girault from which it differs in that the fore wing bears a distinct smoky cross-stripe from whole of the marginal and stigmal veins, otherwise hyaline. The distal margin of this cross-stripe is more or less obscurely but deeply incised at middle and at the proximal margin at caudal half a hyaline indentation of rectangular shape (longer than wide cephalo-caudad). Marginal cilia at apex of fore wing not quite twice

the length of the stigmal vein, about a third of the greatest wing width. Discal bristle absent. Thorax transversely, finely lined. Caudal wings somewhat wider than their longest marginal cilia, about two thirds the width of the fore wing. Three ring-joints. Mandibles bidentate.

From one female taken by sweeping forest on sand-ridges near coast, May 9, 1914 (A. P. Dodd).

Habitat: Chindera, New South Wales.

Type: No. *Hy 2969*, Queensland Museum, Brisbane, the specimen on a slide.

Dedicated to Ludwig von Beethoven.

In this genus I have met with a striking case of parallelism but unfortunately the record was lost. However, a species captured in virgin jungle at Gordonvale, Queensland agreed in every detail with the description of a West Indian or South American species and it is hardly likely that the two can be the same species but rather similar forms developed from the same parent stem. Cases of this kind in other genera of this and other families are not extremely rare. For example, *Aphelinus fuscipennis* Howard, an extremely common species in the cultivated orchards of North America, is duplicated by specimens reared from native coccids in the forests or bush of North Queensland. It is not likely that the Queensland specimens are really correctly identified as *fuscipennis*. There may be differences not yet seen but these differences do not seem really a necessity. The species may have been introduced into North America, not improbable in this particular case. Parallel development of species groups in genera is still more marked and cases of this are common.

Subfamily ENCYRTINÆ.

Tribe AMIRINI.

Male and Female:—Mandibles absent; postmarginal vein absent, the marginal vein punctiform, the stigmal well developed; posterior tibiæ with two spurs. Otherwise like the Mirini. Costal cell wide, its margin convex.

Genus AMIRA Girault.

Female:—Head from cephalic aspect rounded, the frons narrow, the antennæ inserted near the clypeus, the scrobes separate, converging above, the head punctured, the punctures minute. Lateral ocelli nearly touching the eyes, the latter convergent. Thorax punctured like the head. Abdomen flat, short, from above triangular, no longer than the thorax; the hypopygium small, the ovipositor not exserted. Wings hyaline, the venation not quite attaining the costa, the long submarginal vein approaching the costa gradually, then turning off to form the stigmal. Axillæ meeting inwardly. Second abdominal segment short, barely longer than the following three segments. Antennæ 12-jointed, capitate, the scape somewhat convexed beneath, the pedicel long, nearly half the length of the funicle, about thrice longer than wide at apex, the distal funicle joints much wider than long, the first joint of the funicle subquadrate; one very short ring-joint, the club 3-jointed. Fore wings with a short hairless line from middle of stigmal vein; the same not much obliqued. Frons arched or convex, the scrobes not very long.

Male: About the same but totally different in color and the pedicel much longer, as long as the funicle.

1. AMIRA FABREI Girault. Female ; male. Genotype.

Female:—Length, 2 mm. Robust.

Shining black, the wings hyaline, the intermediate tibiæ toward tip and tarsi brown. Head and thorax besides the pin-punctures, densely finely scaly, the abdomen also densely scaly. Discal ciliation of fore wing dense. Scutellum densely longitudinally lineolated or nearly.

Male:—Length, 1.80 mm.

Like the female but all the sides and venter of thorax and the legs, the head and antennæ, the scutellum except a spot along the meson at apex, the axillæ and the sides of

scutum centrally (invasion from the pleurum), lemon yellow; tarsi brown. Antennal pedicel elongate, longer than the scape which is more convexed than in the female, the latter with all the joints distinctly wider than long and more or less equal. Antennal club darker. Lateral ocelli somewhat farther from the eye than in the female.

Habitat: Gordonvale (Cairns), Queensland. Forest. Reared from a spider's egg-sac.

Types: No. *Hy 2970,* Queensland Museum, Brisbane, two pairs on separate tags (four pins) and a slide with female fore wing and heads.

Tribe ARRHENOPHAGINI.

ARRHENOPHAGOIDEA new genus.

1. ARRHENOPHAGOIDEA COLORIPES new species. Female. Genotype.

Length, 0.85 mm. Differs from the genotype of *Arrhenophagus* Aurivillius in bearing 5-jointed tarsi. The antennæ are 5-jointed, quite as in *Arrhenophagus*—scape, pedicel and 3-jointed club, the proximal two joints of the latter transverse-linear, the third joint four times their united length. Differs from *Rhopoideus* Howard in the shorter form, the lack of an oblique hairless line on the fore wing and in the short, thick antennæ. The species is similar in every respect to *Arrhenophagus chionaspidis* Aurivillius excepting that the legs are all concolorous except the knees, tips of tibiæ, tarsi, the intermediate legs and the cephalic tibiæ which are yellowish. Also the middle tibial spur is stouter. No yellow on body.

Habitat: Ingham, Queensland. February 17, 1913.

Type: No. *Hy 2971,* Queensland Museum, Brisbane, the single female on a slide.

The frons is broad, no substigmal spot but a marginal vein is indicated by a slight knot or swelling, which gives off a short, acute stigmal vein. The venation does not reach the costal wing margin. Middle tibial spur distinctly *swollen* or *thick* as *normal.* Hairless line of fore wing apparently absent. Type re-examined.

A second species has been seen either from southern or western Queensland but unfortunately it was mislaid and I could not describe it from the parts mounted on a slide. The hind tibiæ were white, the fore wing with a more or less obscure hairless line and substigmal spot.

Genus ARRHENOPHAGUS Aurivillius.

1. ARRHENOPHAGUS CHIONASPIDIS Aurivillius.

According to Schmidekneckt (1909) Ashmead records this widely distributed species from Australia. I give its principal characteristics.

Tarsi 4-jointed; antennæ as in *Arrhenophagoidea*; fore wings without an oblique hairless line, the marginal, postmarginal and stigmal veins absent; marginal vein represented by a circular fumated spot. Shining black, the disk of abdomen with some yellowish dorsad. Antennæ honey yellow, also the legs but dorsal aspect of caudal legs blackish and most of cephalic femur. A small yellow area just cephalad of tegula; a moderately broad, yellow fascia on upper face (on or near caudal margin of vertex). Mesothorax scaly but the scutellum finely, delicately longitudinally striate. Wings hyaline. Mandibles acute. Tibial spurs all small. Widely distributed—Europe, Asia, North America and Australia. I have seen specimens from Java and Porto Rico (West Indies). Parasitic upon various coccidæ of commercial importance.

Tribe ENCYRTINI.

It is unfortunate but it is to be feared that this tribe will break down and fuse with the Ectromini. Species of the genus *Ænasiella* Girault sometimes have bidentate mandibles. *Cristatithorax* Girault is exactly similar to *Cheilioneurus* Westwood yet in different tribes. Two Australian genera are described with 4-dentate mandibles. Careful comparison of the genera of the two will show still other marked parallelisms. In the great majority of cases no doubt has been experienced as to the dentation but doubt exists as to the meaning of the

latter. Either parallel evolution has been at work or there is no basic reason for separation or else the characteristics of the two groups have been overlooked. The number of tibial spurs on the caudal legs seems to be without significance. I have used the tribal separations for the present. My own table is not a good one and is used here for descriptive reasons only. It was compiled before I was able to use Ashmead's table and also because some group characters used in that table seem to me very trivial, *e.g.*, sculpture. Some of the old genera are very indefinite and hardly valid.

Genus ECHTHROBACCHA Perkins.

With the habitus of the ectromine *Echthrodryinus* Perkins but the head is rather more menisciform, the front between the eyes is much wider, the system of large punctures on the head is much more distinct, the punctures larger, not dense, sparser toward the facial impression. The maxillary palpi are longer, the fourth joint much more elongate. The ocelli form more of an equilateral triangle, the caudal ones well separated (but not much) from the eye margins. The marginal vein is rather longer. Mandibles tridentate, the inner tooth broadly truncate. Antennæ usual. Oblique hairless line wedgeshaped, not reaching the marginal vein. Postmarginal vein short.

1. ECHTHROBACCHA INJURIOSA Perkins. Female. Genotype.

Length, 1.25 mm.

Head black, faintly metallic, with evident large, shallow punctures scattered over the front, most numerous about the ocelli; funicle joints increasing slightly and gradually in width from 2 to 6. Mesonotum shining, finely distinctly punctated and clothed with short dark hairs and black with metallic greenish tints. Scutellum dark at base, finely punctured, clothed with short hairs and with a few scattered, long and erect ones. Mesopleura black with a purplish lustre. Wings hyaline, uniformly ciliate. Abdomen triangular, with a purplish lustre. Antennæ sordid yellow, the club generally entirely dark. Tibiæ and tarsi yellow, the front and hind femora usually blackish for the most part.

Habitat: Cairns, Queensland. Parasitic upon *Baccha.*

Type: Query.

Genus ECTOPIOGNATHA Perkins.

Head moderate, lower face much inflexed, frontal space between the eyes moderately wide; eyes with short, pale hairs. Front with a dense microscopic sculpture and more or less evident traces of faint, sparse punctures. Ocelli apparently in an equilateral triangle, the caudal ones separated slightly from the eyes. Mandibles broad, with three distinct teeth and an inner angulation resembling a more minute fourth one. Maxillary palpi very short, 4-jointed. Antennæ 11-jointed, the club ovate, 3-jointed, the scape much dilated ventrad, the pedicel long; funicles 2 and 3 smallest, a little wider than long; club about two thirds the length of the funicle. Mesonotum with very fine surface sculpture and scattered feeble punctures which are setigerous. Axillæ separated at meson. Wings with short marginal cilia, evenly ciliate, the hairless line present. Marginal vein a little longer than wide, dilated, the postmarginal indicated, the stigmal distinct, somewhat shorter than the marginal. Abdomen short, subtriangular, depressed dorsad, with a fovea on each side toward the base and which bears very long setæ, often so closely appressed as to be visible only on careful examination. Ovipositor barely extruded.

1. ECTOPIOGNATHA MINOR Perkins. Female. Genotype.

Length, 0.75 mm.

Head metallic green, the scape black, rest of antenna pale yellow except the dark distal half of club; mesoscutum brilliant metallic æneus, pilose, shining, the scutellum usually darker,

more coppery; mesopleura shining purplish. Legs almost wholly whitish. Abdomen yellowish, bordered with dark. Wings hyaline.

Habitat: Cairns and Townsville, Queensland. Parasitic upon eggs of *Siphanta.*

Types: Query.

2. ECTOPIOGNATHA MAJOR Perkins. Female.

Length, 0.75 mm.

Head in front coppery, more brassy above, dull, with dense minute sculpture, the scape black, rest of antenna pale, the distal part of club subinfuscate. Mesonotum slightly shining, very faintly sculptured, blue-black; scutellum hardly metallic except at tip, where in some views it is shining coppery. Legs whitish. Abdomen yellowish with a dark border.

Habitat: Cairns, Queensland. Parasitic on eggs of *Platybrachys* or an allied genus. And see below.

This is a synonym of the first species.

Many females, several males which were all dark metallic purple in coloration were reared together with an *Aphelinus* from pentatomid eggs on *Careya australis* at Gordonvale, April 7, 1913 (A. P. Dodd). The fore wings are very finely ciliate discally; the males are like the females except that the scape is pale, thick but not dilated, the club solid, a ring-joint present; funicle joints longer than wide, 3 longest, 1 and 6 subequal, somewhat longer than wide. Funicle joints clothed with scraggly, rather long hairs. The pedicel is scarcely longer than wide. The female antennæ also bear the very short ring-joint.

Also many specimens from leafhopper eggs on *Eucalyptus platyphylla,* Gordonvale, January, 1913 (A. P. Dodd) and from similar eggs on banyan, Townsville, Queensland, October, 1911 (A.A.G.). And several specimens from Mr. F. P. Dodd labelled "Fulgorid ova and parasites." One female, Cooktown, Queensland, February, 1912, window. One female from forest, Gordonvale, January 5, 1914 and August 13, 1914. Also three females, four males, from foliage of a wild citrus plant, October 30, 1911 and on egg-masses of a white jassid on same tree.* One female, February 26, 1913, sweeping along Herbert River, Halifax.

Genus ECHTHROGONATOPUS Perkins.

Head shaped much as in *Echthrodryinus* Perkins, the face inflexed, the eyes large, the least space between them much less than the width of an eye; between the eyes the face with very minute surface sculpture; lateral ocelli near the eyes, the latter sparsely hairy, the hairs inconspicuous. Antennæ inserted far below the middle of the face, the scrobes elongate, the scape simple, elongate, the club large, about as long as the funicle, the joints of the latter wide and short; antennæ 11-jointed, the club 3-jointed. Pedicel over a third the length of the funicle. Mandibles with three strong acute teeth. Maxillary palpi 4-jointed, moderately long, the distal joint longest; labial palpi 3-jointed, about half as long as the maxillary. Axillæ approximate. Mesoscutum with short, white, decumbent hairs, the scutellum with a very dense sculpture, very dull, contrasting with the metallic and finely punctured scutum. Oblique hairless line present on fore wing, the stigmal vein short, the marginal subelongate, the postmarginal slightly developed; marginal cilia short.

The eyes are much smaller in the male, the space between them wider than one of them; the male face is metallic like the scutum, the antennæ much more elongate, the funicle joints elongate, the first subequal to the pedicel, the club subequal to the distal two funicle joints and solid.

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* Babinda, Queensland.

1. ECHTHROGONATOPUS EXITIOSUS Perkins. Female; male. Genotype.

Length, 0.87 mm.

Head with greenish or other metallic lustre, the front microscopically sculptured, rougher about the ocelli and with traces of larger, shallow punctures. Antennæ black, the club wide, flattened, subequal to the funicle. Scutum somewhat shining æneous in some aspects, finely punctate. Scutellum black, dull but the extreme apex conspicuously metallic; mesopleura purplish black. Abdomen shining brassy, coppery or purplish metallic at the base, black distad. Legs pale yellowish. Funicle 6 largest, wider than long, 1 a little longer than wide, 2 and 3 subquadrate, 4-6 enlarging.

Male scape pale; funicle 6 longest, 4 and 5 subequal, slightly shorter than 6, distinctly longer than 1. Funicle bearing long hairs directed cephalad.

Habitat: Brisbane, Bundaberg and Cairns, Queensland. Parasitic on *Gonatopus* and allied genera.

Type: Query.

GENUS CHALCERINYS Perkins.

Differs from *Echthrogonatopus* Perkins in the metallic scutellum which is sculptured nearly like the scutum. Marginal vein somewhat longer than wide, the stigmal a little longer than it, the postmarginal hardly developed. The front between the eyes is wider than is the case with the genus named. Differs principally from *Echthrogonatopus* in the relative lengths of the marginal and stigmal veins. Axillæ slightly separated, the eyes sparsely hairy.

The male has the first funicle joint longest, much longer than the pedicel, joint 6 next longest to 1; the club solid. Also, the eyes are very widely separated.

1. CHALCERINYS EXIMIA Perkins. Female; male. Genotype.

Length, 0.75-1 mm.

Metallic green, in places yellowish-brassy, the mesopleura and abdomen black, at most slightly metallic, the antennæ testaceous, more or less sordid, the legs yellow except tips of tarsi. Head densely and minutely sculptured and with evident traces of larger, very feeble punctures. Caudal ocelli nearer to the eye margins than to one another. Thorax with very dense, minute sculpture, the scutum and scutellum with similar and inconspicuous pale pubescence, the scutellum smoother and more shining apically. Abdomen subtriangular, depressed.

The male is the same but the antennæ are long, the scape and funicle 1 distinctly marked with black, the club slender and elongate, dark or largely so.

Habitat: New South Wales—Sydney; Queensland—Childers and Bundaberg. Parasitic upon *Gonatopus* or an ally.

Type: Query.

GENUS SARANOTUM Perkins.

Rather slender and elongate; head (cephalic aspect) subelongate, the eyes moderate in size and diverging apically, the front with dense, microscopic sculpture and sometimes also with very faint punctures. Ocelli in an isosceles triangle, the caudal ones near the eyes and nearer to each other than to the cephalic one. Antennæ gradually clavate, the scape simple, elongate, the proximal joints of funicle much narrower than the distal ones, the club small, the pedicel shorter than funicle 1. Maxillary palpi with a very long distal joint which is subequal to the other three united. Labial palpi short, the middle joint extremely short. Scutum with appressed, white pubescence, the scutellum with an erect tuft of bristles. Wings infuscated at distal half or more, the submarginal vein much decurved before reaching the marginal, the latter long, the stigmal rather short, the postmarginal little developed. Proximal third of fore wing nearly naked; oblique hairless line present. Caudal legs long, slender. Abdomen rather elongate, depressed, the ovipositor barely extruded.

The male is not known.

Apparently allied with *Cheiloneurus* Westwood differing in the longer head, the elongate form and the solid club. Compare *Eusemionella*.

1. SARANOTUM AUSTRALIÆ Perkins. Female. Genotype.

Length, 1.75 mm.

Head dull, submetallic, the face below the antennæ and the scape testaceous or ferruginous; scutum somewhat shining, æneous; scutellum yellow, the parapsides browner; propodeum very smooth and shining, brassy; mesopleura purple, metapleura with white hairs. Legs brownish yellow or testaceous, the intermediate or caudal tibiæ and the caudal femora piceous for the most part. Abdomen brassy at base, otherwise brown. Fore wing with a small proximal cloud and another over more than the distal half but the extreme tip and two minute, obscure spots (one at tip of marginal vein, the other nearly opposite) more or less hyaline.

Habitat: Bundaberg, Queensland. Parasitic upon *Pseudogonatopus.*

Type: Query.

METALLONELLA new genus.

1. METALLONELLA AUSTRALIENSIS new species. Genotype.

Female:—Length, 0.80 mm.

Wings fully developed, hyaline, the marginal vein punctiform, the stigmal short but distinct, the postmarginal absent; first tooth of mandible much shorter than the other two; antennæ inserted at the mouth border, much as figured for *Psyselledontus insidiosus* Crawford but the club is 3-jointed, the antennæ 10-jointed, no ring-joint. Copper coloured, the scutellum deep blue. Thorax and abdomen densely scaly reticulated. Axillæ just meeting inwardly. Abdomen short, triangular; tarsi yellow. Antennæ dark fuscous, the tip of the scape, fifth or last funicle joint and much of club yellowish; pedicel longer than funicles 1-3 united, long obconical, slender.

Habitat: Brisbane, Queensland. Forest, April 26, 1913 (H. Hacker).

Type: No. *Hy 2972,* Queensland Museum, Brisbane, the female on a tag, the head on a slide.

2. METALLONELLA LONGFELLOWI new species.

Female:—Length, 0.50 mm.

Dark metallic green, the wings hyaline, the antennæ and legs (except hind coxæ) pale yellow. Thorax densely shagreened. Valves of ovipositor distinctly extruded for a sixth the length of the abdomen, the latter more or less brownish. Pedicel dark above, stout, as long as the next three joints combined, the first four funicle joints subequal, small, wider than long, like large ring-joints, but 5 is abruptly larger, subquadrate. Club a little longer than the funicle. Differs from *australiensis* in coloration, in having the ovipositor extruded, the mandibular teeth even, the pedicel not elongate, longer than wide but stout and the club a little longer than the funicle. The teeth of the mandibles are small in both species and both bear an oblique hairless line on the fore wing in the usual position. The head is wider in *australiensis*; the abdomen of the latter is a little longer than the thorax and acute at apex; also the scutum bears many short black hairs from very minute punctures; the stigmal vein is longer also, than in this new species, well developed and the fore wings larger. Compared with type of *australiensis.*

Described from one female captured January 4, 1913 in the forest.

Habitat: Capeville (Pentland), Queensland.

Type: No. *Hy 2973,* Queensland Museum, Brisbane, the specimen on a slide.

Dedicated to Henry W. Longfellow.

The frons is moderately narrow in both species and this character together with the fully developed wings and stronger body separates the genus from *Metallon.* Also, the body is not very flat or depressed.

EUSEMIONELLA new genus.

See table of genera. Scutellum with a tuft of black hairs at apex; the head is longer than wide, the eyes convergent above, face not noticeably inflexed, the scrobes short, incomplete; head without large punctures. Marginal vein long, over a third the length of the submarginal, over twice the length of the moderate stigmal which is nearly twice the length of the short postmarginal. Oblique hairless line present. Mandibles with three short, subequal teeth. One hind tibial spur. Antennæ 11-jointed, slender, the distal funicle joints a little wider than long; funicle partly white.

1. EUSEMIONELLA CRISTATA new species. Female. Genotype.

Length, 1 mm.

Orange yellow, the legs pallid, the hind legs yellowish; scape dusky yellowish, the pedicel and first four funicle joints white, fifth funicle joint whitish at base, rest of antennæ black. Abdomen silvery white at proximal third, the rest purplish, conic-ovate, short. Thorax densely shagreened, the scutum subhispid and with obscure thimble punctures. Fore wings with a distinct black spot at the base of the marginal vein, the ciliation denser and coarser over the spot; also with a large, suboval, brownish black area filling center of blade nearly to each margin and about midway between apex of blade and apex of venation.

Habitat: Gordonvale (Cairns), Queensland. Jungle, June 5, 1913.

Type: No. *Hy 2974*, Queensland Museum, Brisbane, the specimen on a slide.

Genus OOENCYRTUS Ashmead.

1. OOENCYRTUS METALLICUS Girault. Female.

Length, 1.10 mm.

Short, compact. Metallic purple with greenish tinges, the scutum with conspicuous thimble punctures and very finely densely polygonally scaly, the scutellum and face similarly sculptured; vertex and head densely reticulated, the former without thimble punctures. Pronotum very short but wide. Lateral ocelli not quite touching the eyes. Eyes at vertex margined obscurely with ochreous. Venation smoky brown, the fore wings subhyaline but near the middle with a large subhemispherical chocolate brown cloud extending from margin to margin from the marginal vein, its apex much distad of the end of the stigmal vein and caudad before reaching the caudal margin interrupted by a clear line projected into it; its proximal margin is nearly confluent with the oblique hairless line. Marginal vein punctiform, the postmarginal developed, half the length of the stigmal. Marginal cilia of fore wing extremely short, the discal very dense and fine. Sides of thorax sometimes yellowish. Axillæ meeting in an acute point, the scutellum diamond-shaped, caudad with two of the sides forming a hemisphere. Legs yellowish, washed with dusky. Abdomen very short, subtriangular, wider than long. Antennæ yellowish white with the distal funicle joints blackish and the scape and pedicel washed with the same color; club not enlarged, the flagellum slightly enlarging distad, the pedicel as long as the combined lengths of the first two funicle joints, the distal two joints longest and widest of funicle, not much longer than wide. Antennæ 11-jointed, no ring-joint.

Habitat: Roma, Queensland. Eggs of *Tara tephrosis*, October 6, 1911.

Types: No. *Hy 2975*, Queensland Museum, Brisbane, three females on a slide.

A single specimen to a host.

2. OOENCYRTUS BICOLOR new species.

Female:—Length, 0.50 mm. Small; valves of ovipositor a little extruded.

Dark metallic blue, the abdomen coppery; sides and venter of thorax and abdomen orange yellow; legs pale, washed with dusky; the antennæ whitish, the scape a little dusky, the pedicel and funicle 6 blackish. Head orange yellow, the face golden yellow. Fore wings

hyaline but with a dusky blotch across from the distal third or more of the submarginal and whole of stigmal veins; the cephalic part of this stripe is rectangular, obliqued caudo-distad, wider than long (normal position) and is separated from the other much longer than wide, caudal portion (on caudal margin) by an oblique hyaline line; the caudal portion is parallel with the caudal margin and proximad of the axis of the first. About eight lines of discal cilia proximad of the hairless line. Marginal vein punctiform, the postmarginal very short, distinct, the stigmal moderate, distinct, a little over twice the length of the marginal. Hind tibial spur single, minute. Mandibles with three weak teeth. Axillæ narrow, barely separated. Thorax and head scaly reticulate. Scape a little compressed; club shorter than the scape, acutely conic-ovate, about three fourths the length of the funicle or a little more; pedicel distinctly longer than any of the funicle joints which are all a little wider than long but 1 is quadrate; funicle joints gradually widening distad. Frons moderately narrow; head rounded, face inflexed, cheeks a little over half the length of the eyes. Scutellum large. Ring-joint minute.

From one female caught in forest, April 16, 1914 (A. P. Dodd).

Habitat: Cloncurry, Queensland.

Type: No. *Hy 2976*, Queensland Museum, Brisbane, the specimen on a tag, a hind tibia and a fore wing on a slide.

Genus ISODROMOIDES Girault.

Somewhat similar to *Isodromus* Howard but the marginal vein not punctiform, the stigmal nearly twice longer than it but not especially long, the pleura of propodeum without dense white pubescence and the antennæ bear a ring-joint, the club solid, the antennæ 10-jointed. Head (cephalic aspect) slightly wider than long, the scrobes rather short, forming a triangle, distant from the cephalic ocellus, the antennæ inserted near the clypeus, the club obliquely, acuminately truncate along one side, not half the length of the funicle where the first joint is cylindrical and as long as the pedicel, the distal joints wider than long but narrower than the club. Scape slender, pedicel long, the ring-joint very short. Eyes somewhat convergent dorsad, the lateral ocelli not quite touching their margins. Axillæ cuneate, meeting at the meson. Scutellum simple. Abdomen short, triangular, flat above, the ovipositor not exserted. Marginal vein about twice longer than broad, the postmarginal subvestigial, scarcely perceptible; fore wings fumated and with an oblique hairless line. Intermediate tarsi armed beneath with black teeth as in many eupelmine genera but here not quite so densely. Hind tibiæ with one spur. The two lateral mandibular teeth acute, subequal, the mesal shorter and truncate. Somewhat similar to *Meniscocephalus* Perkins of the Ectromini.

1. ISODROMOIDES TRIANGULARIS Girault. Female. Genotype.

Length, 1.75 mm.

Black, scarcely metallic but the distal margins of the scutellum verdigris green; tips of tibiæ and all of each tarsus whitish yellow. Antennæ suffused slightly with brownish. Fore wings entirely embrowned except proximad out as far as the end of the submarginal vein, the fumation accented under the marginal and stigmal veins. Venation brown. Head and thorax densely, finely punctate, the punctures formed by reticulation. Axillæ smoother.

Habitat: Townsville, Queensland. Parasitic upon *Epipyrops doddi* Rothschild. Jungle? April 28, 1903 (F. P. Dodd). Many females.

Types: No. *Hy 2977*, Queensland Museum, Brisbane, three females on a card; hind legs, antennæ, a head and fore wing on a slide.

Mr. A. P. Dodd kindly identified the host, a tineid parasitic upon Fulgoridæ and whose peculiar habits are described in Novitates Zoologicæ, XIII, 1906, pp. 162-169. In the second paragraph of p. 166, it is stated "The ichneumons all issue from the one hole, and the earlier ones to emerge are finely powdered."

Genus ÆNASIELLA Girault.

Head (cephalic aspect) rounded, the facial impression broad but not acutely margined, the scrobes forming a triangle; frons reticulated, without punctures; antennæ inserted below the middle of the face, nearly on a line with the ventral ends of the eyes, the cheeks short. Eyes slightly convergent above; lateral ocelli their own diameter distant from the eyes. Vertex and mesonotum with similar sculpture, the mesonotum, however, with sparse thimble punctures; scutum longer than the scutellum. Axillæ meeting in an acute point; pronotum short. Abdomen short, pointed-triangular, the dorsum flat, without dense pubescence, the hypopygium extending sligthly beyond the tip. Strigils present; hind tibial spur single. Inner two teeth of mandible subequal, the lateral one a little longer, acute. Fore wing broad, the discal ciliation dense, the marginal short; marginal vein punctiform, slightly wider than long, the stigmal moderately long, the postmarginal well developed, about two thirds the length of the stigmal; oblique hairless line not conspicuous. Antennæ 12-jointed with one very short ring-joint, the club 3-jointed; scape clavate, compressed, there being a regular foliaceous dilation toward apex but this is not enormous and fan-shaped as in some genera yet distinct and foliaceous; flagellum clavate, the funicle joints noticeably widening distad, the club thick and oval, wider than but only half the length of the funicle, the latter with 1 and 2 somewhat longer than wide, each somewhat shorter than the pedicel. Pubescence of antenna bristly. Mesonotum densely reticulate in polygons. Eyes longer than the malar space. Frons moderate.

The genus resembles *Anagyrus* but the club is truncate at apex.

1. ÆNASIELLA BRACHYSCELIDIS Girault. Female. Genotype.

Length, 2.10 mm.

Short, moderately robust. Metallic green, the scutellum æneous, the propodeum and abdomen purplish black. Scape and pedicel black, the club and venation smoky brown, the funicle lemon yellow to brownish but the first joint more or less dusky. Legs ferrugineous except proximal half (or nearly) of cephalic femora, all of the concolorous coxæ, the dark distal tarsal joint and most of hind legs which are concolorous except at the end of each tibia and the tarsi. An elongate purplish black spot on cephalic tibia laterad. Fore wings with a small, rounded cloud at the base of the stigmal vein. Frons imperial purple. Vertex and thorax finely, densely reticulated, the polygonal areas sunk slightly below the surface but not like punctures. Funicle 1 longest, 2 and 3 subequal, quadrate, slightly shorter than 1, 6 twice wider than 1, subequal in width to the widest part of the scape.

Habitat: Brisbane, Queensland. Associated with the gall of a *Brachyscelis*. October 23, 1911.

Types: No. *Hy 2978*, Queensland Museum, Brisbane, many females on a card.

2. ÆNASIELLA APIOMORPHÆ new species.

Female:—Length, 1.50 mm.

Same as *brachyscelidis* Girault but smaller, the antennæ, intermediate femora and tibiæ and proximal half of cephalic tibiæ concolorous, the marginal vein a little longer than wide. Otherwise identical. Scape a little expanded ventrad in both species. Second tooth of mandible broadly truncate.

Male:—The same but the antennæ thick. cylindrical, 10-jointed with a ring-joint, the club solid and not greatly longer than the funicle joints which are clothed with not long hairs and longer than the small pedicel; antennæ dark brown. Scape slightly compressed. Funicle joints stout.

Described from one male, eleven females labelled "15. Nat. Mus. Victoria. Bred from *Apiomorpha pileata*. Dandenong. J. Kershaw. 2. 1900."

Habitat: Dandenong, Victoria.

Types: In the National Museum, Melbourne, the above series of specimens on a card. Also 12 females labelled "16. Nat. Mus. Victoria" on a card and 1.14.1900."

3. ÆNASIELLA AMPLIS new species.

Female:—Length, 1.35 mm. exclusive of ovipositor which is extruded for a third the length of the abdomen.

Same as *apiomorphæ* but somewhat smaller, the ovipositor is distinctly but not longly extruded, the general coloration is dark metallic purple, the knees, tips of tibiæ and tarsi brownish; also funicle 1 is distinctly wider than long not a little longer than wide as in *apiomorphæ*. The obscure thimble punctures are not evident on the face. All the funicle joints here are wider than long, 1 shorter than 2, whereas in *apiomorphæ* joints 5-6 only are wider than long, 1-3 subequal, 4 a little longer than 3. Face less distinctly carinated between the antennæ.

The male antennæ are black and less densely clothed, the hairs thinner and curled; funicle 1 smaller than the others, not as large as the pedicel which is as large as the other funicle joints and subglobular. Compared with types of *apiomorphæ*.

In this species the mandibles are more distinctly tridentate.

Described from one male, five females labelled "17. Nat. Mus. Victoria. Bred from *Apiomorpha pileata*, North Melbourne."

Habitat: North Melbourne, Victoria.

Types: In the National Museum, Melbourne, the specimens on a card.

4. ÆNASIELLA PALLIDIPES new species.

Female:—Length, 1.38 mm., the ovipositor just tipping the abdomen.

Differs from the other species in having the legs pale yellow except coxæ, a metallic spot just below knees on middle tibiæ dorsad and one at same place on hind tibiæ, a longer one on hind tibia before tip (dorsad) and dorsal part of hind femur at distal half or more. Second tooth of mandible broadly truncate. Marginal vein punctiform. General color very dark green, blackish nearly, the antennæ concolorous. Epistoma without a carina. Scattered thimble punctures less evident due probably to the back ground. Head dark metallic green. Funicle suffused with yellowish, only joint 6 being wider than long, the others quadrate or a little longer than wide.

From one male, five females labelled "30. Nat. Mus. Victoria. Lilydale, May 27, '09. M. Chapman." Reared from leaf-hoppers.

Habitat: Lilydale, Victoria.

Types: In the National Museum, Melbourne, the above specimens on a card

Genus PSEUDENCYRTELLA Girault.

1. PSEUDENCYRTELLA FASCIATA Girault. Female. Genotype.

Length, 2 mm.

Dark metallic purplish, the legs concolorous, the tarsi yellowish; fore wings with a fuscous stripe across them from the stigmal vein; antennæ concolorous. Mesoscutum with fine scaly sculpture and dense pin punctures; the scutellum finer, with longitudinal lining, the axillæ meeting inwardly. Antennæ inserted near the clypeus, filiform, the scape very long, extending far above the clypeus and more than half the length of the long slender flagellum, whose joints are all more than twice their width; pedicel about two and three quarter times longer than wide at apex, shorter than the first funicle joint; club not enlarged, 2-jointed, the funicle 7-jointed, no ring-joint. Head (cephalic aspect) narrow, longer than wide. Marginal vein scarcely longer than wide, the postmarginal shorter than the stigmal. Mandibles with the three teeth about equal.

Habitat: Scottsdale, Tasmania.

Type: I. 1475, South Australian Museum, one female on a tag; hind leg and antenna on a slide.

The genus differs from *Pseudencyrtus* Ashmead in having the elongate scape, the narrow head, the 2-jointed club and the punctate scutum.

PHÆNODISCOIDES new genus.

1. PHÆNODISCOIDES AUSTRALIENSIS new species. Genotype.

Female:—Length, 1.60 mm.

Bluish black, the legs yellowish brown, the coxæ pale, the hind femora pale proximad, washed with bluish along distal two thirds; axillæ meeting inwardly, reddish brown. Wings sooty, with a dirty appearance, clear as far out as the bend of the submarginal vein. Antennæ 12-jointed with a very short ring-joint, the 3-jointed club and the distal funicle joint white, the rest black except the yellow-brown scape; first two funicle joints longest, subequal, each a little longer than the pedicel, cylindrical. Teeth of mandibles subequal, strong but not very long. Postmarginal and stigmal veins equal, each about a third shorter than the marginal. An obscure, oblique hairless line from the base of the stigmal vein. Propodeum with a median carina, opaque, not sculptured, the thorax finely reticulated but the scutellum smoother distad. Head impunctate or nearly, with an obtuse ridge between the antennæ. Frons moderate. Palpi white. Funicle 1 nearly thrice longer than wide.

Habitat: Gordonvale (Cairns), Queensland. Forest, April 27, 1913.

Type: No. *Hy 2979*, Queensland Museum, Brisbane, the above specimen on a tag, the head on a slide.

CERCHYSIELLA new genus.

Seemingly closely allied with *Cerchysius* Westwood, the mandibles long and slender, the two outer (lateral) teeth long and subequal, each over twice the size of the third but the postmarginal vein is hardly developed, very much shorter than either the marginal or stigmal veins which are not very unequal, the marginal vein about thrice longer than wide, the stigmal a little longer than it. Also, the mesonotum is densely coriaceous, the scutellum glabrous, the axillæ shining but finely reticulated, meeting inwardly. Funicle joints distad of 1 a little wider than long, the club wider than the funicle and about half its length. Head rounded, the frons moderately broad, the face inflexed, the cheeks two thirds the length of the eyes. Hind tibia with two spurs. Fore wings with an oblique hairless line. Valves of the ovipositor slightly exserted. Antennæ 12-jointed, one very short ring-joint.

1. CERCHYSIELLA NIGRA new species. Female. Genotype

Length: 1.60 mm.

Black, lustrous, the wings hyaline; distal half of tibiæ and the tarsi reddish brown on the intermediate legs, the tarsi and tips of tibiæ in other legs pale yellowish. Pedicel a half longer than thick at apex, longer than the first funicle joint which is a little longer than wide. Funicle 6 wider than long the joints widening a little distad. Third mandibular tooth acute, not truncate as in *nigrella*.

Habitat: Gordonvale (Cairns), Queensland. Jungle, May 25, 1913.

Type: No. *Hy 2980*, Queensland Museum, Brisbane.

2. CERCHYSIELLA NIGRELLA Girault. Female.

Length, 1.60 mm.

The same as *nigra* but the mandibles are somewhat stouter and the third tooth not so well developed being in fact very short and truncate against the side of the middle tooth; the first funicle joint is distinctly longer than wide, three-fourths the length of the pedicel (in *nigra* funicle 1 is nearly quadrate and not more than half the length of the pedicel). The funicle joints are all stouter. Hind tibia with two spurs. The two outer teeth of mandibles are longer and stouter than in the genotype. Apex of distal club joint white.

Habitat: Halifax (Ingham) Queensland. February 25, 1913.

Type: No. *Hy 2981*, Queensland Museum, Brisbane.

3. CERCHYSIELLA UMBILICATA new species.

Female: Length, 2 mm.

Dark metallic green, the abdomen purple except at extreme base; legs and antennæ reddish brown except club, coxæ and proximal half of femora; pedicel a little dusky. Wings very slightly stained. Mandibles long, slender, with two strong, acute outer teeth and a third much shorter inner one. Axillæ a little separated. Head and thorax densely scaly, the vertex with scattered umbilicate punctures and a row of same along the eyes; scutum and scutellum umbilicately punctate, the punctures moderately coarse, not confluent, absent along the meson of scutellum. Abdomen very finely scaly, as long as the rest of the body, the ovipositor a little extruded. Propodeum subglabrous, with three narrow carinæ at the meson, the three well separated. Hind tibial spurs *double,* unequal. Scape distinctly compressed, (excluding bulla) stouter than the funicle; pedicel not much longer than wide at apex, longer than funicle 1 which is longest yet barely longer than wide; following joints gradually shortening and widening; club no more than half the length of the funicle whose distal three joints are subpetiolate. Thorax clothed with short black hairs. Cheeks nearly half the length of the eyes. Frons moderately broad. Scrobes deep, forming a semicircle. Hind wings curved. Marginal vein about twice longer than wide, the stigmal long, curved, a half longer than the marginal; postmarginal vein not half the length of the marginal. Pronotum transverse. Costal cell of hind wings extending to the hooklets.

From one female taken in jungle, May 8, 1913 (A. P. Dodd).

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 2982,* Queensland Museum, Brisbane, the specimen on a tag; a fore wing, head and hind tibia on a slide.

Genus CERCHYSIUS Westwood.

1. CERCHYSIUS AUSTRALIENSIS Ashmead. Female.

Length, 2.6 mm.

Æneous-black, the head blue-black, the face ventrad of scrobes metallic bluish green, the mesopleura, scutellum and abdomen decidedly metallic greenish; antennæ black; legs except coxæ, distal half of hind femora and proximal two thirds of hind tibiæ, brownish yellow. Wings fuscous, the proximal one third hyaline. Venation brown. Stigmal and postmarginal veins longer than the marginal. Ovipositor about the length of the first joint of hind tarsi, their valves broad.

Habitat: Australia.

Type: Cat. *No. 4895,* United States National Museum, Washington, D.C., U.S.A.

2. CERCHYSIUS HISPIDISCUTUM new species.

Female: Length, 2 mm., excluding ovipositor.

Similar to *Rhopalencyrtoidea claripennis* but at once distinguished specifically by the distinct whitish pubescence on the scutum (present in that species but not conspicuous), the whitish knees and tarsi, the wholly concolorous middle tibiæ, the dark æneous green colour, the legs and abdomen (except at base) very dark purple, by the shorter marginal vein which is punctiform or nearly, slightly longer than wide, the somewhat shorter postmarginal (in relation to the stigmal), by the slender scape, the slender pedicel and the longer first two joints of the funicle which are longest, subequal, each a little over twice longer than wide and somewhat longer than the pedicel which is subequal to funicle 4. The ovipositor is extruded for a distinctly greater length (about two thirds the length of abdomen). Sculpture similar in both, or nearly but in the fore wing the discal ciliation is absent proximad until near the tip of the

submarginal vein. In this second species there is a silvery crescent on thoracic pleurum just cephalad of the mesopleurum, the latter very finely polygonally reticulated.

From one female caught September 28, 1913 (H. Hacker).

Habitat: Caloundra (Brisbane), Queensland.

Type: No. *Hy 2983*, Queensland Museum, Brisbane, the specimen on a tag; head and fore wing on a slide.

3. CERCHYSIUS ROBUSTUS new species.

Female:—Length, 2.50 mm., excluding ovipositor which is extruded for a length equal to two thirds that of the abdomen.

Differs from the genotype of *Coccidoxenus* in that the frons is moderate, not prominent, the scrobes deep, forming a semicircle or nearly; the postmarginal vein is somewhat shorter than the stigmal and the axillæ are a little separated.

Metallic blue-green, the abdomen except across the base, very deep blue nearly black. Valves of ovipositor and antennæ black; knees, tips of tibiæ (more broadly in intermediate legs being nearly distal half) and the tarsi reddish yellow. Head and thorax very finely scaly and with many scattered, small setigerous punctures; scaliness of scutellum distad with a longitudinal direction or flow. Wings hyaline, the venation dark. Postmarginal vein only about half the length of the stigmal, somewhat longer than the marginal. Mandibles with the two outer acute teeth longer than the inner. Oblique hairless line of fore wing with about four short lines of discal cilia proximad of it. Hind tibial spurs double. Head with short, stiff white hairs scattered over the surface and which contrast. Pedicel subequal to funicle 2, funicle 1 longest, somewhat over twice longer than wide; other funicle joints each shortening a little, 6 being subquadrate; club short, not more than somewhat over a third the length of the funicle. Funicle densely clothed. Valves of ovipositor a little compressed. Scutum a little longer than scutellum. Propodeum and abdomen scaly, the former with an intermediate glabrous portion on each side of meson. Pubescence of scutum similar to that of the head but not as conspicuous.

From one female caught in forest, November 5, 1913.

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 2984*, Queensland Museum, Brisbane, the female on a tag; head, fore wing and hind tibiæ on a slide.

4. CERCHYSIUS BELLULUS new species.

Female:—Length, 1.65 mm. Ovipositor extruded a very short distance.

Dark metallic purple, the wings uniformly lightly stained and with a small darker stain along the stigmal vein. Legs concolorous but the tarsi and tips of tibiæ pale. Stigmal and postmarginal veins subequal, the latter a little longer; hind tibiæ with one spur. Antennæ 12-jointed, the ring-joint exceedingly short, hidden, the whole blackish; club 3-jointed. Eyes convergent above. Thorax very finely shagreened and the scutum and scutellum with numerous setigerous thimble punctures which are conspicuous but not confluent by far. Axillæ barely separated. Abdomen scaly. Pedicel longer than all the funicle joints (separately) of which 1-3 are subequal each slightly longer than wide. Frons rather narrow. Cheeks somewhat shorter than the eyes. Mandibles usual. Venation fuscous.

Habitat: Hughenden, Queensland. Forest-downs. July 14, 1912.

Type: No. *Hy 2985*, Queensland Museum, Brisbane, one female on a tag; a hind leg and the head on a slide.

5. CERCHYSIUS AUSTRALIS new species.

Female:—Length, 2.10 mm., excluding the ovipositor which is three fourths the length of the abdomen; their valves compressed a little, a little broader than usual.

Dark metallic green, the abdomen blackish, the legs black; valves of the ovipositor black. Fore wings with a distinct brownish band across them from the marginal and stigmal veins,

otherwise hyaline, the venation black, the blade large, the postmarginal vein a fourth shorter than the stigmal the latter somewhat longer than the marginal. Third tooth of mandible shorter than the outer two which are equal and not long. Marginal vein a little longer than wide; from the stigmal an oblique hairless line which is incomplete and bounded proximad by five short lines of cilia. Knees and tarsi yellowish brown. Axillæ meeting inwardly, with a carina between them. Thorax densely scaly. Tegulæ large, reddish brown. Antennæ black, 12-jointed, joints 1 and 2 of funicle subequal, each about twice longer than wide, longer than the pedicel, the distal or sixth funicle joint a little wider than long; one very short ring-joint. Pronotum transverse. Scutum downy from numerous obscure setigerous punctures. Frons moderate. Cheeks a little over half the length of the eyes. Abdomen about as long as the rest of body, conic-ovate.

From one female taken by sweeping miscellaneous vegetation, left bank of Pioneer River, October 19, 1911.

Habitat: Mackay, Queensland.

Type: No. *Hy 2986,* Queensland Museum, Brisbane, the specimen on a tag; head, a fore wing and a hind leg on a slide.

The club is not half the length of the funicle. Scape rather stout. Hind tibial spurs double. Mandibles broad.

6. CERCHYSIUS OVIDUCTUS new species.

Female:—Length, 0.75 mm., excluding the ovipositor which is extruded for two thirds the length of the abdomen.

Metallic purple, the wings hyaline. Knees, tips of tibiæ, tarsi and distal third of middle tibiæ yellowish. Scutum and scutellum densely, finely polygonally scaly and with scattered, obscure, small setigerous punctures. Axillæ distinctly separated for some distance. Scutellum metallic green at apex, a little shorter than the scutum. Valves of ovipositor black. Marginal vein a little longer than wide, the stigmal twice longer than it, the postmarginal subequal to the stigmal. Oblique hairless line present, with three or four scattered, short lines of cilia proximad of it, these cilia distinctly coarser than the very fine ciliation of the main part of the blade. Marginal cilia of fore wing very short. Abdomen flat, triangular, not as long as the thorax. Two outer teeth of mandibles a little longer than the inner, all acute, not long. Cheeks subequal in length to the eyes, the frons moderate. Head (cephalic aspect) rounded, the frons (lateral aspect) not prominent. Antennæ inserted at the clypeus, quite as figured for *Chalcerinys* Perkins but the club is somewhat over half the length of the funicle, the first joint of the latter quadrate, the second a little longer than wide, the next four subequal in length but each very slightly broader in succession and somewhat longer than wide. Pedicel a little longer than funicles 1 and 2 combined.

Male:—The same but the antennæ filiform, 9-jointed, the club solid and distinctly longer than any of the preceding joints except the scape; pedicel short, barely longer than wide; funicle joints all distinctly longer than wide, 2 and 3 longest, each nearly twice longer than wide. Flagellum clothed with moderately long, soft hairs.

Described from a pair captured by sweeping in the forest, December 24, 1911.

Habitat: Double Island (Cairns), Queensland.

Types: No. *Hy 2987,* Queensland Museum, Brisbane, the pair on a tag, the heads on a slide.

In *hispidiscutum* and *australis,* the axillæ are rather broadly joined and with a carina between them. The species *australis* differs from *hispidiscutum* mainly in having a fuscous band on the fore wing, that wing in the latter species hyaline; but also the marginal vein is a little longer in *australis.* The hairless line in both species is guarded proximad by short lines of discal cilia, five in *australis,* three in *hispidiscutum* and the line is longer in the former.

The fore wings of *robustus* are about as in *hispidiscutum* but in *australiensis* there is a stain against the stigmal vein, the latter is a little shorter than the postmarginal, the marginal is a little longer than wide and the hairless line is nearly complete, proximad of it about eight long lines of discal cilia. Also, in *australiensis*, funicle joints 1 and 2 are only a little longer than wide and the axillæ are a little separated.

NEASTYMACHUS new genus.

1. NEASTYMACHUS AURATICORPUS new species.

Female:—Length, 1.70 mm.

Golden yellow, the wings hyaline but a little yellowish along under the venation. A blackish stripe across middle of occiput, face of pronotum, disk of dorsal abdomen and a spot near margin on each side of base, metallic purplish. Axillæ with a short carina between them. Thorax densely, minutely scaly and with numerous minute pin-punctures which bear short white hairs. Mandibles with three equal teeth. Scape slender, curved, the pedicel a little over twice longer than wide, somewhat longer than funicle 1 which is subequal to 2, 3 and 4 subequal, a little shorter than 2, 6 a little longer than wide; funicle 1 twice longer than wide. Club barely wider than the funicle, the flagellum filiform. Cheeks two thirds the length of the eyes. Frons moderate. Scrobes forming an elongate triangle. Funicle hispid. Abdomen as long as the rest of the body, pointed triangular. Marginal vein somewhat over twice longer than wide, the stigmal about its length, the postmarginal somewhat over half the length of the stigmal. Ten or more lines of coarser discal cilia proximad of the hairless line. Club somewhat over a third the length of funicle. Lateral ocelli a little separated from the eyes. Hind tibial spurs distinct, double. Club dusky. Head a little longer than wide. Agrees otherwise with the generic description.

From one female caught in forest, April 24, 1914.

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 2988*, Queensland Museum, Brisbane, the specimen on a tag; head, fore wing and a hind tibia on a slide.

A second female, March 28, 1914, same place. The wings were hyaline.

HABROLEPOPTERYGIS new genus.

Somewhat like *Pseudanusia* Girault of the Ectromini, the head short and inflexed, the vertex subquadrate but the stigmal and marginal veins are moderately long and subequal, each a little over twice longer than wide, the postmarginal vein a third shorter. The antennæ are of the same general form yet the club is obliquely truncate and somewhat longer than the funicle, the six joints of the latter lamellate, *i.e.*, each lateral end narrowed and curved distad and the pedicel is also acutely prolonged from one distal angle. Hind tibiæ not seen. Mandibles small, weak, with three short subequal teeth. Frons rather narrow, the vertex flat.

1. HABROLEPOPTERYGIS FELIX new species. Female. Genotype.

Length, 1.10 mm.

Orange yellow, finely densely shagreened, the proximal half of the abdomen washed with metallic greenish, the propodeum and distal half of abdomen pale yellowish. Legs deep lemon yellow, the antennæ nearly the same, the club paler yellow. Fore wings deeply embrowned from a little proximad of the bend of the submarginal vein distad nearly to apex, leaving the apical margin rather broadly hyaline. Caudal wings uniformly embrowned, broad (about 16 lines of fine discal cilia). The distal margin of the infumation on the fore wing is darker forming a rather broad two-thirds circle. The fore wings in this species are uniformly fumated but a broad stripe under distal part of submarginal and all of marginal vein, distinctly darker.

Head pale or ivory white, the face ventrad of the eyes crossed by a wavy dark stripe which passes through the base of the antennæ. Scape ventrad edged with black. Axillæ meeting inwardly. Hairless line of fore wing with about five lines proximad of it.

Habitat: Gordonvale (Cairns), Queensland. Jungle, June 5, 1913, a female.

Type: No. *Hy 2989*, Queensland Museum, Brisbane, the above female on a slide.

One female, Kuranda, jungle, September 16, 1913 (A. P. Dodd) and December 3, 1913.

GENUS CHEILONEURUS Westwood.

1. CHEILONEURUS GONATOPODIS Perkins. Female.

Length, 1 mm.

Ferruginous or yellow, the club of the antennæ and usually the basal part of the hind tibiæ, blackish or infuscate. Ocelli on a submetallic area and forming a triangle with a narrow base but the triangle hardly twice as high as wide at base. Eyes with a very few short, indistinct hairs. Scape very slender, cylindrical. Scutum with a caudal cross-band of blue with a silvery lustre due to the pubescence; propodeum dark at the sides. Wings infuscate on more than the basal half except that at the tips and round the margins they are nearly hyaline; a darker transverse mark bearing long black setæ, near the base of the marginal vein. Abdomen dark at tip and on each side at extreme base; distad of the dark at base on each side there are some very long setæ. Scutum with silvery pubescence.

Habitat: Cairns, Kuranda, Bundaberg and Childers, Queensland.

Parasitic on *Pseudogonatopus, Echthrodelphax* and so forth.

Type: Query.

2. CHEILONEURUS CHLORODRYINI Perkins. Female.

Length, 1.50 mm.

Very like the preceding species and the North American *swezeyi* in habitus but differs from the former in lacking the caudal metallic cross-band on the scutum, which however has the same silvery pubescence. Scape well rounded on the ventral side and distinctly dilated. From cephalic aspect, eyes strongly convergent cephalad, the least space between them excessively narrow, not very much wider than an ocellus. The ocelli are placed in the form of an excessively elongate triangle, the anterior one being extraordinarily remote from the caudal ones. Hairs on the eyes excessively short but numerous. Scape yellowish, its ventral margin dark; pedicel and funicle white, the club black. Wings as in *gonatopodis*.

Habitat: Kuranda, Queensland. In cocoons of *Chlorodryinus*.

Type: Query.

3. CHEILONEURUS PURPUREIVENTRIS new species.

Female:—Length, 1 mm.

Orange yellow, the abdomen and caudal third of scutum metallic purple (the latter green); also the antennal club is black. Tuft of hairs at apex of scutellum black. Fore wings deeply embrowned from the apical half of the bend of the submarginal vein distad nearly to tip; the latter and a small spot just distad of marginal vein hyaline. The three lines of distal cilia proximad of the oblique hairless line rather long and coarser, very much longer than the cilia of the blade generally. Mandibles with three small, acute teeth. Scape distinctly dilated ventrad but not very greatly expanded; pedicel not especially long, longer than any of the funicle joints of which all are wider than long, 1-4 subequal, 5 and 6 distinctly longer than them. Thorax very finely longitudinally lineolate-reticulated. Axillæ barely separated. Metallic green caudal third of scutum hispid with silvery white hairs. Vertex very narrow, nearly flat, the face greatly inflexed, the frons subprominent, overhanging the face, narrow. Legs pale yellow. Vertex with a line of faint punctures along each eye margin, the surface coriaceous.

Pubescence on scutum sparse, the scutellum naked. Tip of valves of ovipositor slightly extruded, white. Marginal vein twice the length of the stigmal the latter subequal to the postmarginal. Infumation of fore wing deeper under the marginal vein. Antennæ 12-jointed, one ring-joint, club three fourths the length of the funicle. Pedicel metallic purple above. Ventral border of scape black.

Male: Not known.

Described from two females captured by sweeping miscellaneous vegetation on the Herbert River, February 26, 1913.

Habitat: Halifax, Queensland.

Type: No. *Hy 2990*, Queensland Museum, Brisbane, the above specimens on a tag; a head and a third antenna on a slide with type *seminigriclavus*.

4. CHEILONEURUS SEMINIGRICLAVUS new species.

Female:—Length, 1 mm.

Differs from *purpureiventris* in having the scutum wholly concolorous, the pedicel purple above, distal two joints only of club black. Stigmal vein a little longer than the postmarginal. Caudal third of scutum without the silvery hispidescence. The scape is a little more expanded, considerably convexly dilated in both species. Middle tibia darkened just below knee.

From one female captured with the preceding.

Habitat: Halifax, Queensland.

Type: No. *Hy 2991*, Queensland Museum, Brisbane, the specimen on a slide with type head of preceding.

5. CHEILONEURUS PERPULCHER new species.

Female:—Length, 1.10 mm. Postmarginal vein absent. Mandibles with three rather long, acute teeth.

Lemon yellow; meson of pronotum rather broadly, scutum and scutellum metallic grass green; propodeum, abdomen, distal half of caudal femur, caudal tibiæ except at each end, the infuscation of fore wing, metallic purple. Thorax densely polygonally scaly, the scutum with silvery pubescence. The lemon yellow axillæ a little separated at meson. Scape slender; pedicel longer than any of funicle joints, a little longer than wide at apex. Funicle joints widening distad, 1 as long as 6 but distinctly narrower. Club enlarged, nearly as long as the funicle. Frons moderate. Hind tibial spurs double, the smaller spur no longer than the apical fringes. Apex of fore wing rather broadly and apical and caudal margin distad of venation narrowly (broadly at first from proximad) clear, the infuscation from the curve of the submarginal vein. Marginal vein black, truncate; hairless line with about 4-5 lines of cilia proximad of it. Caudal wings with about sixteen lines of uniformly fine discal cilia.

From one female caught by sweeping forest uplands, May 29, 1914 (A. P. Dodd).

Habitat: Maclean (Clarence River), New South Wales.

Type: No. *Hy 2992*, Queensland Museum, Brisbane, the specimen on a tag; head, fore wing and hind tibiæ with slide type of *Cristatithorax pasteuri* Girault.

6. CHEILONEURUS DUBIUS new species.

I captured on March 1, 1914 in a jungle pocket, Gordonvale, a female specimen agreeing in every particular with *chlorodryini* Perkins except that the space between the eyes was about three times the diameter of an ocellus, thus not excessively narrow and the cephalic ocellus could not be called excessively remote from the other since the three were in a triangle not much more than twice higher than broad at base. The ocelli were not in a metallic area.

Habitat: Gordonvale (Cairns), Queensland.

Type: None designated.

ACHRYSOPOPHAGUS new genus.

1. ACHRYSOPOPHAGUS OVIDUCTUS new species. Genotype.

Female:—Length, 1.25 mm., excluding the ovipositor which is extruded for a little over half the length of the abdomen.

Orange yellow; face of pronotum centrally, scutum, propodeum, proximal margin of abdomen and its lateral margin along proximal half, metallic green. Tarsi, fore legs and distal half of middle tibiæ, white, rest of legs blackish. Scape yellow, next three joints dusky, joints 3-6 of funicle silvery white, the club black. Face between the scrobes lemon yellow. Fore wing hyaline, deeply sooty from the straight proximal border of discal ciliation (about half the length of the marginal vein distant proximad of that vein) distad to over half the distance to apex from the apex of venation, the apical margin of the infuscation highly, regularly convex. Oblique hairless line with about six rather dense lines of discal cilia proximad of it. Marginal vein thrice the length of the short stigmal, the postmarginal vein half the length of the stigmal. Distal margin of infumation of fore wing with a hyaline, naked path bordering it; from thence distad, the wing slightly infuscated. Ovipositor valves black at distal third, soiled white elsewhere. Thorax very finely scaly, the scutum with silvery white pubescence. Axillæ broadly separated mesad, no carina between them. Tuft of bristles on scutellum between center and apex, distinct but scanty, divided into two small tufts. Mandibles with three equal, acute teeth. Scrobes well developed, the face strongly inflexed ventrad. Head narrowed ventrad, distinctly longer than wide, the face convex, the frons rather narrow, a little over thrice the diameter of the cephalic ocellus. Scape long and slender; pedicel somewhat less than twice longer than wide at apex, much longer than any of the funicle joints which are short, 1 subquadrate, 5 shortest, 3-6 somewhat wider than long; club large, 3-jointed, a little longer than the funicle. Hind tibial spur single.

From two females caught by sweeping in forest, April 16, 1914 (A. P. Dodd).

Habitat: Cloncurry, Queensland.

Type: No. *Hy 2993*, Queensland Museum, Brisbane, two females on a tag; head, fore wing and a hind leg on a slide.

In the second female, the tuft on scutellum was quite normal. The antennal club is distinctly compressed or flattened from the sides. Discally, on dorsal abdomen within proximal half, there is much metallic coppery narrowing proximad and joining the metallic green across base.

2. ACHRYSOPOPHAGUS CLAVATUS new species.

Female:—Length, 1 mm., excluding ovipositor which is extruded for half the length of the abdomen.

Differs from the genotype in being somewhat smaller, in having the valves of the ovipositor wholly white, the scutum distinctly shorter, the pronotum metallic green mesad, the propodeum wholly yellow, the proximal half of the abdomen dorsad dark metallic green, the coxæ and femora except distal end of hind femur silvery white, the axillæ joined and with a carina between them, the head wholly yellow, also the face of pronotum. Legs orange yellow. Face in *oviductus* metallic just above the inflection. All funicle joints and apex of scape silvery white, pedicel and scape orange yellow, the former blackish above at base. Club black. Joints 2-4 of funicle shortest. The fore wings are a little narrower than in the genotype, the short, silvery pubescence less conspicuous on scutum, more so on scutellum. Hind femur with a black stripe down it laterad from middle to apex and central (also in the genotype). Compared with type of *oviductus*.

From one female caught in forest, June 10, 1914.

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 2994*, Queensland Museum, Brisbane, the specimen on a tag; head, fore wing and a hind tibia on a slide.

Marginal vein a little longer than in the genotype, eight or more times longer than wide in both species. In this species, the postmarginal vein is at least two thirds the length of the short stigmal, the latter less than a fourth the length of the marginal. In the single specimen, the tuft on scutellum was very sparse, represented by four or five long black hairs. In the genotype, the metallic stripe across base of abdomen is rather broad.

CHRYSOPOPHAGOIDES new genus.

Female:—Differs from *Achrysopophagus* in having the third tooth of mandible truncate, moderately broad, the funicle joints all longer than wide, the club long but shorter than the funicle, not enlarged and not with very oblique divisions as in that genus; the cheeks are a little longer than the eyes. The funicle joints are longer, the club slenderer and not as long as the funicle.

1. CHRYSOPOPHAGOIDES WESTWOODI new species.

Female:—Length, 2.75 mm., excluding extruded part of ovipositor which is as long as the abdomen.

Postmarginal vein very slightly developed, much shorter than the stigmal which is not quite half the length of the marginal, the latter a little less than half the length of the long submarginal. Dark metallic purple, the fore wings deeply embrowned from the proximal end of marginal vein to apex, but on opposite sides at the edges there are two small hyaline spots, the cephalic at the end of the postmarginal vein, the caudal spot larger. Face ventrad of eyes (which are convergent), scape, face of pronotum, thoracic pleura, propodeum (except laterad) and axillæ, orange yellow. Funicle and pedicel suffused with orange. Legs and extruded portion of ovipositor yellowish white, the intermediate femora at tip, the tibiæ just below knees purplish, the hind tibiæ purplish on each end. Scutum with very fine, dense silvery hairs which form distinct pilosity, the thorax densely, finely scaly, the scutellum densely punctulate, the propodeum smoother, with some (but not much) silvery pubescence laterad. Fore wings densely ciliate. Scutellum with the usual tuft of black hairs. Scape curved, thick; pedicel long-obconic, longer than any of the funicle joints of which 2 and 4 are a little the longest, 1 and 3 subequal, 4 subequal to 2, 5 to 1, 6 shortest, a little longer than wide, 2 not quite a half longer than wide; club barely wider than the filiform funicle. Face between the antennæ with numerous minute pin-punctures; also some of the latter on the cheeks and on the face along ventral border of the convergent eyes. Frons narrow. Axillæ very slightly separated. Antennæ 12-jointed with one ring-joint. Face inflexed. Scrobes semicircular.

From one female, mixed forest and jungle, May, 1913.

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 2995*, Queensland Museum, Brisbane, one female on a tag; head on a slide.

Genus ENCYRTUS Latreille.

1. ENCYRTUS GILBERTI new species.

Female:—Length, 1.28 mm..

Orange yellow, the abdomen dorsad purplish black. Legs honey yellow; club black; antennæ honey yellow; pedicel washed with purplish, funicles 5 and 6 silvery white. Pedicel longer than any of the funicle joints of which 1 is longest, somewhat longer than wide, 2 and 3 subequal, a little shorter than 1, 4 quadrate, 5 and 6 a little wider, a little wider than long. Club rather large. Fore wing with a broad brown band across it from somewhat less than distal half of submarginal vein to apex of stigmal; also brown along distal fourth from apex, the proximal margin triangular, converging from either side and then obtusely prolonged centrally over half way proximad to the first brown stripe; just opposite this apical prolongation an oblique brown streak enters the wing from either margin, obliqued caudo-distad (the cephalic one), cephalo-distad (the caudal one) and approaches either side toward its apex. At the

bend of the submarginal vein is a straight deeper brown streak beset with stiff bristles and a narrow, curved hyaline line at caudal three fourths divides the first cross-stripe longitudinally. The distal stripe and streaks are blackish. Marginal vein black, about thrice longer than wide, subequal to the stigmal, the postmarginal colorless, shorter. Axillæ separated by a short carina. Thorax finely scaly and with scattered, minute setigerous punctures. Pubescence not conspicuous. Face inflexed, the frons narrow, about two and a half times as wide as the diameter of an ocellus. Mandibles with three subequal teeth.

From one female caught by sweeping in forest, December 19, 1911.

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 2996,* Queensland Museum, Brisbane, the specimen on a tag; head and an injured fore wing on a slide.

2. ENCYRTUS NEWCOMBI new species.

Female:—Length, 1.50 mm.

Exactly similar to *gilberti* but the abdomen concolorous, the first four funicle joints blackish, also the pedicel. Hind tibial spurs double (not seen in the other species).

From one female caught February 16, 1913 on a window (H. Hacker).

Habitat: Brisbane, Queensland.

Type: No. *Hy 2997,* Queensland Museum, Brisbane, the specimen on a slide.

Dedicated to Simon Newcomb, astronomer.

3. ENCYRTUS SPINOZAI new species.

Female:—Length, 1.15 mm.

Dull honey yellow, immaculate; funicles 1, 4 and 5 silvery white; club black. Pedicel distinctly longer than any of the funicle joints of which the first is somewhat longer than wide, the following joints subquadrate. Club wider than the funicle. Fore wings marked as in the preceding species but the apical infuscation is distinctly not connected with the M-shaped streaks proximad of it, its proximal margin practically straight; moreover, the middle piece of the M-shaped marking is isolated nearly. The infuscation under the venation is uniform, not accented. Postmarginal vein barely longer than wide. Frons a little narrower than in *gilberti.* Thorax finely sheened. Axillæ barely separated.

From one female caught sweeping in jungle, April 2, 1913.

Habitat: Mulgrave River (Gordonvale near Cairns), Queensland.

Type: No. *Hy 2998,* Queensland Museum, Brisbane, the female on a tag; head and fore wings on a slide.

4. ENCYRTUS ARISTOTELEA new species.

Female:—Length, 1.20 mm.

Very similar to *newcombi* but somewhat less robust, the first four antennal joints are pale yellow, the postmarginal vein is somewhat less than half the length of the stigmal (fully two thirds in *newcombi*). Antennæ as in *gilberti.* Otherwise the same as *newcombi.* Axillæ broadly joined, with a carina between them. Similar to *gilberti* but the abdomen wholly concolorous. Hind tibial spur single.

From one female caught by sweeping edges of jungle, January 3, 1914 (A. P. Dodd).

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 2999,* Queensland Museum, Brisbane, the specimen on a tag; head, hind tibia and fore wing on a slide with type *gilberti.*

6. ENCYRTUS TRIGUTTATUS new species.

Female:—Length, 1.50 mm.

Similar to *gilberti* but the abdomen bears at apex above a distinct round purple spot and two fainter purple spots one on each lateral margin just out from base. Also, the body is somewhat more robust and the scutum bears more conspicuous blackish pubescence. Differs

from *newcombi* in the coloration of the abdomen; from *spinozai* in the distinctly darker, deeper yellow coloration of the body, the purplish markings, the more conspicuous pubescence and the wing pattern. From *aristotelea* differs in being deeper orange yellow and in having the abdominal markings. Hind tibial spur apparently single. Axillæ with a carina between them.

From one female caught by sweeping in a mangrove swamp, Tweed River, May 14, 1914 (A. P. Dodd).

Habitat: Chindera, New South Wales.

Type: No. *Hy 3000*, Queensland Museum, Brisbane, the specimen on a tag with type *spinozai*.

7. ENCYRTUS WUNDTI new species.

Female:—Length, 1.20 mm.

Orange yellow, the abdomen metallic purple, the scutellum washed with purple and less distinctly so, the scutum; abdomen suffused with yellowish. Legs concolorous. Antennæ concolorous except funicle 6 and the club which are black. Scape moderately dilated, pedicel subequal to funicle 1 which is somewhat longer than wide and longest; funicles 5 and 6 distinctly wider than long; club somewhat less than half the length of the funicle. Lateral ocelli not touching the eyes, the vertex moderately broad, the cheeks somewhat less than half the length of the eyes. Mandibular teeth short, subequal. Head lenticular. Axillæ distinctly separated for a short distance. Hind tibial spurs double. Vertex with thimble punctures caudad of the cephalic ocellus and with a row of punctures along the eyes. Thorax finely scaly but with numerous setigerous punctures. Scutellum somewhat longer than the scutum. Marginal and stigmal veins subequal, the former a little over twice longer than wide, the stigmal curved, the postmarginal vein no longer than wide. Fore wings deeply embrowned from base not quite to apex, the margins of the latter rather broadly hyaline. Proximad of oblique hairless line, discal cilia numerous but distinctly coarser than the main ciliation. Distal joint of maxillary palpus black. Frons broader than usual and face convex.

From one female taken in forest, December 31, 1912 (A. P. Dodd).

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 3001*, Queensland Museum, Brisbane, the specimen on a tag; head, fore wing and a hind tibia on a slide.

Dedicated to Wilhelm Wundt.

A second female, same place, July 10, 1914. Probably not a member of this genus but of the next one.

8. ENCYRTUS PURPUREIVENTRIS new species.

Female:—Length, 1.25 mm. Resembles *Nesyrpophagus unguttatus* in general appearance.

Very deep orange yellow, the abdomen wholly imperial purple, also scutellum at distal third lightly. Legs paler and the antennæ but the club black; funicle 5 and 6 white, pedicel purple above at base, first four funicle joints dusky. Axillæ slightly separated yet with a carina between them. Thorax finely scaly, the scutum and scutellum with sparse, minute setigerous punctures, the former very slightly washed with metallic. Fore wing sooty from a little distad of middle of submarginal vein to apex, the infuscation fading somewhat at apex, accented at cephalic half of its proximal margin, under the marginal vein and under the apex of stigmal vein and divided by a hyaline stripe of moderate narrowness whose proximal margin intersects apex of stigmal vein; this naked, hyaline cross-stripe is narrowed abruptly at center by a proximal projection of the proximal margin of the distal half (or somewhat more) of the infuscation which is accented rectangularly at its cephalo-proximal corner, some distance distad of the marginal vein. Marginal vein black; postmarginal vein a little less than half the length of the stigmal. Hairless line of fore wing with about seven lines of cilia proximad of it. Dilation of scape moderate. Pedicel somewhat longer than funicle 1 which is subequal to 3 and

somewhat longer than wide, 2 subequal to 4 and 5, subquadrate, 6 a little wider than long. Frons narrow; cheeks nearly as long as the eyes. A line of fine setæ along the facial margin of each eye. Hind tibial spur single.

From three females caught by sweeping orange trees in a neglected garden, August 15, 1914.

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 3003*, Queensland Museum, Brisbane, two females on a tag; head, fore wing and a hind tibia on a slide.

9. ENCYRTUS PARUS new species.

Similar to *wundti* but the face inflexed, the scutum as purple as the scutellum, the pedicel and first three funicle joints purplish, the pedicel somewhat longer than funicle 1 which is subquadrate; the axillæ joined, with a short carina between them.

Described from one female captured by sweeping in the dry bed of Cape River, forest, September 20, 1914.

Habitat: Capeville (Pentland), Queensland.

Type: No. *Hy 3004*, Queensland Museum, Brisbane, the specimen in alcohol (head severed) with type of *Atoposoma unguttatipes*.

PARAPHÆNODISCUS new genus.

1. PARAPHÆNODISCUS VERUS new species. Genotype.

Female:—Length, 1.25 mm. Robust. Differs from *Phænodiscus* in that the scape is foliaceously dilated.

Reddish yellow, the abdomen pale honey yellow, also the head, legs and antenna except the club which is black (but whitish at extreme apex). Fore wings stained brownish from base to end of venation, from thence distad less so. Head lenticular, the frons moderately broad, the cheeks over half the length of the eyes. Mandibles with three equal teeth. Funicle joints 1 and 2 subquadrate, the others shortening each a little, the distal one dusky on one side. Last joint of maxillary palpi black. Hind tibial spur single. Marginal vein somewhat over twice longer than wide, slightly shorter than the stigmal, the postmarginal not quite half the length of the marginal. Hairless line on fore wing with about 10 lines of much coarser cilia proximad of it. Costal cell rather broad, its cephalic margin convex. Scape distinctly but only moderately dilated; pedicel subequal in length to funicle 1; club about half the length of the funicle. Body flattened, very finely scaly, the thorax with many scattered, minute setigerous punctures. Axillæ separated a little. Abdomen subglabrous. Scutellum with a thin plate around the distal edges (plate-like rim).

From one female caught in forest, April 9, 1913.

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 3002*, Queensland Museum, Brisbane, the specimen on a tag; head, hind tibia and part of fore wing on a slide.

2. PARAPHÆNODISCUS WUNDTI Girault. See *Encyrtus*.

ÆNASOMYIELLA new genus.

1. ÆNASOMYIELLA COLERIDGEI new species. Genotype.

Female:—Length, 1.25 mm. Frons over six times the diameter of cephalic ocellus, moderate, about twice wider than with *Encyrtus gilberti* and *aristotelea*. Dilation of scape very convex. Marginal vein a little longer than wide. Club conic.

Honey yellow, immaculate except that the scape has a conspicuous, longer than wide black area from ventral margin between base and middle; wings proximad lightly stained yellowish; venation pale. Frons moderate. Mandibles with three acute teeth. Scape dusky along ventral

margin just before tip. Pedicel small, hardly longer than wide, yet somewhat longer than any of the funicle joints which are all distinctly wider than long, 2 and 3 a little the longest, 6 widest, all hispid; ring-joint present. Hind tibial spurs double. Stigmal vein long, curved, over twice the length of the marginal, the postmarginal longer than the marginal. Many lines of discal cilia (over a dozen) proximad of hairless line. Whole body with a frosted appearance, subglaucous, extraordinarily finely scaly reticulate. Cheeks somewhat over half the length of the eyes. Scutellum reaching base of abdomen, the axillæ distinctly separated by a short triangular projection at apex of scutum but they are not very wide apart. Thorax with scattered, short white pubescence. Vertex sloping; face inflexed. Wings hyaline.

From one female caught by sweeping forest.

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 3005*, Queensland Museum, Brisbane, the specimen on a tag; fore wings, hind tibia and head on a slide.

COPIDOSOMOPSIS new genus.

Female:—Form small, the thorax very convex, globular, the abdomen rather distinctly narrower than it and somewhat longer, narrow-triangular. Agrees otherwise with the description of *Copidosomyia* but the frons is broad, the cheeks longer than the eyes, the scrobes long. Also the marginal vein is punctiform, the postmarginal absent, the stigmal twice longer than the marginal. Mandibles rather long, with three acute, small teeth, of which the middle is the longest. Axillæ distinctly separated for a short distance. Marginal vein thickened, almost circular.

1. COPIDOSOMOPSIS PERMINUTUS new species.

Female:—Length, 0.70 mm.

Dark metallic purple, the wings hyaline; scape, middle legs (except coxæ), tarsi and tips of hind tibiæ broadly (cephalic tibiæ not seen), yellow. Funicle 1 distinctly longer than wide, subequal to the pedicel, the following joints quadrate, the distal three a little wider than long. Head and thorax finely scaly. Club no thicker than the funicle and shorter. Very few setæ proximad of hairless line of fore wing, the line not very definitely bounded by a single line of cilia.

From one female, all remaining out of 2,120 reared from a "pyrale larva," April 23, 1914 (F. P. Dodd).

Habitat: Kuranda, Queensland.

Type: No. *Hy 3006*, Queensland Museum, Brisbane, the specimen on a tag; fore wing, head and fragments of antennæ on a slide.

BLATTICIDA new genus.

1. BLATTICIDA ASHMEADI new species. Genotype.

Female:—Length, 1.25 mm.

Very dark metallic blue, the wings hyaline, the scutellum contrasting metallic green, the legs and antennæ rich yellowish brown but the much enlarged club black. Head and thorax delicately scaly with obscure setigerous punctures (in rows on the vertex), the scutum pilose; scutellum densely punctate. Mandibles with three small teeth, the inner tooth shorter. Funicle joints annular. Axillæ slightly separated. Scape distinctly dilated for its entire length, not long, the pedicel a little longer than wide yet much longer than any of the funicle joints which do not differ much in length (4 and 5 shortest) but 6 is twice wider than 1. Club as long as the funicle and pedicel united, obliquely truncate, over twice the width of funicle 6, the flagellum strongly capitate. Face strongly inflexed, the vertex and frons moderately narrow but over thrice the diameter of the cephalic ocellus, the lateral ocelli oblique and against the eyes. Metapleura bare, the body pubescence not conspicuous. Marginal vein somewhat over twice longer than wide, the stigmal shorter than it by a fourth or more, the postmarginal vein

not longer than wide; oblique hairless line present, the marginal fringes very short, the discal ciliation fine and dense. Propodeum transverse at meson, widening laterad. Antennæ 12-jointed, a very short ring-joint being present. Cheeks not much more than half the length of the eyes. Hind tibial spur single. Abdomen a little shorter than the thorax, depressed, triangular, the ovipositor just tipping it.

Male:—The same but the frons is broad, the lateral ocelli a little separated from the eyes while the antennæ are filiform, wholly colored like the legs and the club is solid. Scape not as distinctly swollen; funicle joints subglobular and much longer than the pedicel excepting funicle 1 which is much longer than wide. Funicle joints bristly, the bristles not very long.

From one male, five females reared from eggcases of a native cockroach from the jungle and in company with *Eutrichosomella blattophaga* Girault, February, 1914 (A. P. Dodd).

Habitat: Babinda, Queensland.

Types: No. *Hy 3007*, Queensland Museum, Brisbane, one male, five females on a tag, one female, one male and female head on a slide with type of *Eutrichosomella blattophaga.*

Of the above eggcases, two were parasitized, the parasites issuing from both ends by way of two perfectly circular holes, one at each end and on opposite sides of the dorsal ridge of the eggcase. The eggcases are rather small, of a greyish color, the bottom and bottom sides and a longitudinal stripe somewhat below the dorsal edge abbreviated at each end and interrupted once beyond or before the middle, dark reddish brown.

Subsequently a female was found in a bottle labelled "Gordonvale, sweeping grass, forest, April 10, 1912." In this specimen the cephalic knees were dusky.

NEOCOPIDOSOMYIA new genus.

Female:—Differs from *Copidosomyia* Girault in that the head (cephalic aspect) is rounded and a little wider than long, not ovate and plainly longer than wide. Also, the frons is twice broader and the scrobes normal, forming a deep triangle, the face inflexed. The antenna has a short ring-joint. Axillæ slightly separated. Abdomen as long as the thorax, the ovipositor not exserted. Second segment of abdomen occupying only a fourth of the surface. Outer two teeth of mandibles distinctly longer than the inner. Otherwise as described for *Copidosomyia.*

1. NEOCOPIDOSOMYIA VIRIDISCUTELLUM new species. Genotype.

Female:—Length, 1.90 mm. Robust.

Purplish black, the scutellum dark metallic green, the fore wing lightly embrowned from the bend of the submarginal vein to apex or nearly so; distal half of tibiæ and the tarsi yellowish brown. Antennæ concolorous, scape a little compressed, excised ventrad at tip; pedicel one and a fourth times longer than wide at apex, subequal to funicle 1 which is distinctly longer than wide, the longest, 2 a little longer than wide, 5 and 6 distinctly wider than long. Club obliquely truncate, not more than half the length of the funicle. Cephalic ocellus about twice its diameter from either eye. Head densely finely scaly, the vertex with obscure, small punctures. Scutum sculptured like the vertex but the scutellum densely punctulate. Abdomen scaly like the scutum but without the punctures. Pubescence inconspicuous. A darker spot against the marginal and proximal two thirds of stigmal veins. Marginal vein somewhat less than twice longer than wide. Oblique hairless line narrow. Mesopleura finely, longitudinally scaly and lined. Hind tibial spur single.

From four females on a card labelled "Apr. 24, 1903. F. P. Dodd."

Habitat: Townsville, Queensland.

Types: No. *Hy 3008*, Queensland Museum, Brisbane, four females on a card; head, portion of fore wing and a hind tibia on a slide.

Later, another card with seven females, one male was found bearing the same data and a flower-like case of what appeared to be a fulgorid, the host. The male was broken but as far as could be seen resembled the female except that the frons was broader and the funicle more hairy.

NEBLATTICIDA new genus.

Female:—Head (cephalic aspect) rounded, the face inflexed, the eyes convergent cephalad, the frons narrowing cephalad, rather narrow, caudad where broadest, four times the diameter of the cephalic ocellus; cheeks as long as the eyes. Antennæ 12-jointed, capitate, the scape greatly dilated, the funicle a little longer than the large, obliquely truncate club, the six joints widening distad, all much wider than long but not annular. Mandibles with three equal, short, acute teeth. Marginal vein about four times longer than wide, a little over twice the length of the short stigmal, the postmarginal present but wider than long; hairless line on fore wing distinct. Hind tibial spur single. Legs simple. Abdomen pointed conic-ovate, as long as the thorax, depressed above. Scutellum broad, as long as the scutum, the pronotum transverse. Axillæ separated a short distance. Scutellum large, broadly rounded.

1. NEBLATTICIDA FASCIATIPES new species. Genotype.

Female:—Length, 1.12 mm.

Dark coppery, the thorax with contrasting silvery white pubescence which is abundant but not dense, the setæ not crowded. Legs black, the tarsi, cephalic knees, tips of all tibiæ, a narrow band around caudal legs proximad and distad of knees, the first oblique, most of middle femora except a narrow, oblique stripe across some distance before the knee and a rather large diffused spot dorsad somewhat proximad of middle, middle knees, a white oblique stripe across middle tibiæ just ventrad of knees (separated from them by an oblique black band), a spot dorsad a little proximad of middle of intermediate tibiæ and distal fourth of the latter and funicle joint 6, silvery white. Funicle 5 suffused with whitish along one lateral half and funicle 4 along lateral third or less. Frons where narrowest not quite twice the diameter of the cephalic ocellus. Fore wings smoky from somewhat distad of middle of submarginal vein to within a rather short distance of apex, the distal margin of the infuscation broken centrally into two lobes which are farthest distad; a narrow longitudinal clear stripe not far from caudal margin runs through the body of the infumation but does not completely divide it, diffusing disto-caudad, proximad terminating in the oblique hairless line caudad; oblique hairless line with about 9 lines of cilia immediately proximad of it and a dense cluster of cilia are farther proximad of these lines; a short, transverse hyaline line runs in front of the venation. Pedicel small, a little longer than wide, longer than any of the funicle joints of which 6 is largest, 1 and 2 smallest; funicle 1 twice longer than wide, 6 a little more than that and longer. Club joints wider than long. Scape with a scaly sculpture, longer than the funicle. Thorax very densely, minutely shagreened.

From one female caught in forest, April 16, 1914 (A. P. Dodd).

Habitat: Cloncurry, Queensland.

Type: No. *Hy 3009*, Queensland Museum, Brisbane, the female on a tag; head, middle and hind legs and a fore wing on a slide.

CHEILONEUROIDES new genus.

Female:—With the habitus of *Cheiloneurus*. Vertex flat; frons very prominent, narrow, the face inclined ventro-caudad. Cheeks somewhat longer than the eyes. Runs to *Cheiloneurus* Westwood but the scutum also has a tuft of hairs like that of the scutellum, this tuft a little cephalad of center; the scape is broadly dilated ventrad for its entire length and the post-marginal and stigmal veins are longer, the stigmal as long as the marginal, a little longer than the postmarginal. Hind tibial spur single. Mandibles with three subequal, obtuse, short teeth. Antennæ capitate, much as in the flagellum of the Mymarid genus *Polynema*.

1. CHEILONEUROIDES BICRISTATUS new species. Genotype.

Female:—Length, 1.30 mm.

Orange yellow, the abdomen brown; antennæ pale yellow except ventral edge of scape along proximal two thirds and distal two club joints all of which are blackish. Legs brownish,

silvery white toward tips of tibiæ and proximad on femora and the knees and tarsi; intermediate legs with a narrow black band above and below knees. Mesopleurum caudad washed with purple. Caudal fourth of scutum metallic bluish and there clothed with dense silvery white pubescence. Scutum and scutellum very finely, densely, longitudinally lineolated but metallic part of scutum transversely so. Axillæ barely separated. Distal two thirds or more of first joint of hind tarsus black. Fore wings embrowned from the first bend of the submarginal vein to apex, deeper under the marginal vein and quite as in species of *Cheiloneurus* except that the white spot just distad of venation includes the whole area subtended by the postmarginal and stigmal veins. Oblique hairless line broad, not well delimited by setæ. Marginal vein about two and a third times longer than wide. Pedicel much longer than any of the funicle joints, nearly twice longer than wide at apex; funicle slender proximad, widening a little distad, the joints all subquadrate but 5 and 6 wider than the others. Distal part of submarginal vein as usual curving but the curve is rather long and *concave*.

From two females caught on the foliage of *Acalypha* growing in gardens in the town, October 23, 1911.

Habitat: Townsville, Queensland.

Type: No. *Hy 3010*, Queensland Museum, Brisbane, one female on a tag; head, wing and hind tibiæ on a slide.

PARAPHYCUS new genus.

1. PARAPHYCUS ABNORMISCAPUS new species. Genotype.

Female:—Length, 1.25 mm., excluding ovipositor which is distinctly but shortly extruded.

Deep orange yellow, the head except vertex, the pronotum except lateral margin, propleura, mesopleura, legs, metapleura and abdomen very pale yellow, contrasting; face of pronotum, cephalic margin of scutum and dorsum of abdomen except along each margin where there are pale yellowish marginal spots, black. A large obscure rounded area in center of scutum on each side of the meson and a distinct, large arrow-shaped spot in center of the scutellum (covering most of it, the apex blunt and at base of scutellum, the spot leaving the distal margin yellow) purple. A spot below knee and one across tip of middle tibia and a spot centrally on lateral caudal femur, one just below knee and one a little distad of middle on caudal tibia, dusky black. Wings hyaline. Upper half of occiput black. Antennæ colored like the legs. Extruded valves of ovipositor dusky, whitish at extreme base and apex. Marginal vein punctiform, the postmarginal distinct, somewhat longer than the marginal, the stigmal long, curved, about thrice the length of the postmarginal. Mandibles with three equal, small, acute teeth. Axillæ separated by a short carina. Frons broad, face inflexed, the cheeks somewhat shorter than the eyes. Pedicel and scape dusky the latter stout, obconic, the pedicel globular, the funicle joints subequal, each a little longer than wide, a little over half the length of the scape (excluding the bulla). Club slender, nearly half the length of the funicle, longer than the scape (even if the bulla is included). Marginal fringes of fore wing very short, the hairless line guarded by two lines of cilia proximad and three or four inconspicuous lines of cilia under, and parallel with, the submarginal vein. Main discal ciliation of the fore wing fine, dense. Thorax densely, very finely scaly. Propodeum with several transverse black spots on each side. Distal margin of scutellum pale yellow. Antennæ with a very thin ring-joint, the flagellum longitudinally striate. Hind tibial spurs double, very unequal. Scape shaped like an ordinary pedicel.

From one female caught in forest, April 15, 1914 (A. P. Dodd).

Habitat: Cloncurry, Queensland.

Type: No. *Hy 3011*, Queensland Museum, Brisbane, the specimen on a tag.

NEOCLADELLA new genus.

Female:—Form elongate, the abdomen conic-ovate, a little produced at apex, longer than the rest of the body, the ovipositor valves stout, prominent, extruded a little. Frons rather broad; mandibles with three short obtuse teeth but the third is wider, obliquely truncate but not very broad. Fourth joint of maxillary palpi nearly as long as the others combined, stouter also. Marginal vein barely longer than wide, thick, as long as the stigmal and more so than the postmarginal which is barely developed. Hind legs flattened (except the tarsi), broad, the tibial spurs short, double. Antennæ inserted below the middle of the inflexed face, the scape very short, broadly dilated for its entire length, somewhat longer than wide; pedicel flat, a little longer than wide; funicle with the joints wider than long, the first much the shortest, combined somewhat longer than the club which is ovate, wider than the funicle, 3-jointed, the ring-joint absent. Axillæ distinctly a little separated.

1. NEOCLADELLA COMPRESSIPES new species. Genotype.

Female:—Length, 1.85 mm.

Dark metallic blue, the scutellum and abdomen purple, the wings hyaline; tarsi white. Thorax densely, finely, polygonally scaly, the axillæ finely, transversely so. Pedicel longer than any of the funicle joints of which 2 to 6 are subequal, distinctly wider than long, 1 much wider than long, only about a third the length of the others. Club much longer than the scape, the latter distinctly longer than the pedicel. Hairless line of fore wing with two lines of coarser discal cilia along its proximal border and with two shorter lines of cilia somewhat farther proximad of these, the four lines more or less joined caudad. Discal cilia of fore wing fine, dense, distinct, the marginal fringes very short.

From one female caught in forest, April 14, 1913 (A. P. Dodd).

Habitat: Cloncurry, Queensland.

Type: No. *Hy 3012,* Queensland Museum, Brisbane, the specimen on a tag; head, fore wing and a caudal leg on a slide.

ACHALCERINYS new genus.

1. ACHALCERINYS TRICLAVATA new species. Genotype.

Female:—Length, 0.65 mm.

Agrees with the description of the genotype of *Chalcerinys* except that the distal two thirds of abdomen is brownish yellow in all that part distad of the spiracles, the legs and antennæ pale yellow. The abdomen is somewhat longer than the rest of the body, conic-ovate. The marginal vein is linear and a little over twice longer than wide, the stigmal slightly shorter than it, the postmarginal absent. The fore wings are more regular in shape, slenderer, with parallel margins, shaped as in *Aphelinus,* their discal ciliation fine and dense, the hairless line complete. The antennæ differ in that funicle 6 is plainly the longest joint of the funicle, being a little longer than wide, twice the length of the preceding joint; funicle 1 small, subglobular, 2 and 3 subequal, smallest, wider than long; 4 a little longer than 3, 5 distinctly longer than 4, a little wider than long. Funicle gradually widening, the club still wider, three fourths the length of the funicle or more. Pedicel a little longer than funicle 6. Antennæ inserted somewhat below the middle of the face. Axillæ distinctly separated but not much so. Frons moderate. Cheeks distinctly longer than the eyes. Mandibular teeth equal, acute. The marginal vein is plainly longer than wide.

From one female caught April 18, 1912 in the forest.

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 3013,* Queensland Museum, Brisbane, the specimen on a slide.

COPIDOSOMYIA new genus.

Female:—Head (cephalic aspect) long-ovate, distinctly longer than wide, narrower ventrad, the cheeks two-thirds the length of the eyes, the frons narrow, the antennæ inserted at the mouth border, the scrobes forming a rather shallow very short triangle, the face convex, with scattered thimble punctures. Antennæ 9-jointed, the scape long and slender, the pedicel moderately long (one and three fourth times longer than wide at apex), much longer than any of the funicle joints of which 1 is longest, somewhat longer than wide and subequal to 2; 3 and 4 slightly longer than wide, 5 and 6 a little wider than long; club solid, long conic-ovate, a little over half the length of the funicle; no ring-joint. Axillæ rather broadly joined at meson. Hind tibial spur single; legs slender. Abdomen shorter than the thorax, flat above, compressed beneath, the ovipositor very shortly extruded. Marginal vein twice as long as wide, the postmarginal vein a third longer than it, the stigmal long, still longer than the postmarginal; oblique hairless line short, distinct, the fore wing with a rather broad, distinct sooty stripe across it from the proximal end of the bend of the submarginal vein to a little beyond the apex of the stigmal, the discal ciliation proximad coterminous with the proximal margin of this stripe. Marginal cilia of fore wing very short. Second segment of abdomen occupying half of surface, obtuse, short. Mandibles with three acute, subequal teeth. Head shaped like that of an ant. Genal suture subobsolete.

1. COPIDOSOMYIA CINCTIVENTRIS new species. Genotype.

Female:—Length, 1.60 mm.

Black-blue, the antennæ and legs concolorous; club, a band around base of abdomen, one around hind tibiæ just below knees and distal third of cephalic femur, yellowish white. Pronotum and scutum finely scaly; head, scutellum and axillæ more coarsely so. Metapleurum with some silvery pubescence. Pronotum and scutum with some sparse whitish pubescence. Propodeum noncarinate, together with the abdomen practically smooth. Base of extruded portion of valves of ovipositor suffused with whitish.

From one female caught in jungle, December 3, 1913 (A. P. Dodd).

Habitat: Kuranda, Queensland.

Type: No. *Hy 3014*, Queensland Museum, Brisbane, the specimen on a tag; antenna, fore wing and a hind tibia on a slide.

This genus seems related to *Copidosoma* and allies but the mandibles appear to disagree with those of that genus and the club is solid.

ZARHOPALOIDES new genus.

1. ZARHOPALOIDES AXILLARIS new species. Genotype.

Female:—Length, 0.80 mm.

Dark metallic green, the wings hyaline; legs, head (except upper occiput), axillæ, the transverse pronotum, extreme apex of scutellum and a rather broad band across caudal scutum (a little over caudal third of scutum) lemon yellow; abdomen black-purple. Vertex orange yellow. Antennæ dusky yellow, the scape and pedicel lemon yellow, the pedicel metallic above. Scape of moderate length, shorter than the funicle whose joints are wider than long, enlarging distad, 1 and 2 nearly like ring-joints, smallest; pedicel a little longer than funicle 6; club subequal to the scape, wider than the funicle; funicle 6 somewhat wider than 1, thrice longer. Mandibles with three short, acute, unequal teeth, the second longest, the first shortest. Cheeks nearly as long as the eyes, the face inflexed, the frons not prominent, broad. Ocelli nearly in a straight line, the lateral ones nearly their own diameter from the eye margins. Marginal vein a little wider than long, postmarginal distinct, somewhat over half the length of the stigmal which is twice the length of the marginal. Cilia proximad of hairless line sparse, two lines guarding the path distinct. Discal cilia of fore wing very fine, dense, the fore wing pyriform. Hind tibiæ with two spurs, the first very short. Axillæ separated for some little

distance. Thorax densely scaly, the scutum with short, scattered pubescence. Abdomen finely sculptured, rounded triangular, depressed, about as long as the thorax. Scutellum large, triangular.

From one female taken, May 19, 1914 by sweeping forest.

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 3015*, Queensland Museum, Brisbane, the female on a tag; head, fore wing and hind leg on a slide.

2. ZARHOPALOIDES LONGIFASCIATIPENNIS new species.

Female:—Length, 1.35 mm. Abdomen longer than the thorax.

Dark metallic green, the scutellum dark blue, the abdomen coppery. Fore wings hyaline but with a distinct, moderately broad, midlongitudinal dusky stripe down them from apex nearly to a point opposite apex of venation. Trochanters, knees, tibiæ and tarsi yellowish white, also the antennæ; intermediate tibia dusky just below knee. Pedicel longer than any of the funicle joints of which 1-3 are subequal, each *a little wider than long*, smallest; funicle 1 a little smaller than 2 or 3, 6 largest, a little wider than long, twice the size of 4 which is somewhat larger than 3; club wider than the funicle and somewhat over half its length; scape slender. Scrobes moderate, the antennæ inserted on a level with the ventral ends of the eyes, the cheeks less than half the length of the eyes. Frons moderate, the lateral ocellus a little separated from the eye. Mandibular teeth not long, the inner somewhat shorter than the other two. Marginal vein slightly longer than wide, the stigmal vein somewhat longer than it, the postmarginal subequal to the marginal, the venation pale yellow. Oblique hairless line present and with about three lines of coarse discal cilia proximad of it; other discal ciliation very dense and fine; marginal fringes short. Fore wings moderately slender. Head and thorax densely scaly, the thorax rather sparsely pilose and with obscure scattered punctures, also present sparsely on the head. Axillæ slightly separated. Hind tibial spurs small, double, unequal.

Described from one female captured by sweeping forest streamlet edged with jungle, December 2, 1912 (A. P. Dodd).

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 3016*, Queensland Museum, Brisbane, a female on a tag, the head on a slide.

3. ZARHOPALOIDES GRACILIS new species.

Female:—Length, 1.10 mm. Slender, the ovipositor a little extruded, the abdomen conic, longer than the rest of the body. Differs from the preceding mainly in coloration of the legs and the longer first funicle joint.

Dark metallic blue, the scutellum dark green, the legs and antennæ straw white. Fore wings hyaline, with a midlongitudinal dusky, rather broad stripe from apex (where it is a little broader) to opposite the apex of the dusky venation. Pedicel distinctly longer than any of the funicle joints of which 1-3 are subequal, each *a little longer than wide* and narrower than any of the three distal joints which widen slightly in succession and each of which is a little longer than wide, a little longer than either of the three proximal joints. Cheeks somewhat less than half the length of the eyes. Club somewhat wider than and somewhat more than half the length of the funicle. Third tooth of mandible shorter than the outer two which are subequal. Frons moderately broad. Face inflexed. Discal cilia under venation abruptly faint but the oblique hairless line is outlined but with no cilia proximad of it. Venation as in preceding. Hind tibial spurs double. First tarsal joint of hind legs much longer than the others taken separately. Thorax scaly, the scutum with sparse, short pubescence, apparently absent on the scutellum. Axillæ distinctly separated for a rather short distance.

From one female taken by sweeping along a forest streamlet, June 29, 1913.

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 3017*, Queensland Museum, Brisbane, the specimen on a tag; head, fore wing and a hind tibia on a slide.

RHOPALENCYRTOIDEA new genus.

Female:—Runs (in my table) to *Encyrtus* but differs in having the ovipositor distinctly extruded for some length, the postmarginal vein somewhat longer than the stigmal, the latter somewhat longer than the marginal. Also, the frons is a little broader. Pronotum transverse-linear. Dilation of scape not great but distinct and foliaceous. Mandibular teeth short, acute, equal. Differs from *Ænasiella* in having the eyes no longer than the malar space, the longer marginal vein and so forth.

1. RHOPALENCYRTOIDEA PURPUREICORPUS new species. Genotype.

Female:—Length, 0.83 mm., excluding ovipositor which is extruded for a length equal to four fifths that of the abdomen.

Dark metallic purple, the wings hyaline, the venation black; middle knees and tibiæ yellowish white (except the dusky distal joint of tarsi). Head and thorax densely scaly, the axillæ with a carina between them, narrow. Scutellum extending to base of abdomen, the latter triangular, not quite as long as the thorax, finely scaly. Pedicel a little longer than any of the funicle joints which are all short, quadrate but gradually enlarging distad. Club somewhat over half the length of the funicle and distinctly wider. Cheeks long, as long as the eyes or a little longer, the face inflexed. Hind tibal spur single, the middle spur large and stout, a little longer than joint 1 of middle tarsus which is the longest of all tarsal joints. Frons nearly of moderate width. Cephalic femur compressed. Hairless line of fore wing with about six lines of coarser cilia proximad of it. Marginal vein not quite twice longer than wide (one and a half times longer than wide). Club conic-ovate. Fore wings with fine dense discal cilia.

From one female specimen caught June 28, 1914 (A. P. Dodd).

Habitat: Childers, South Queensland.

Type: No. *Hy 3018*, Queensland Museum, Brisbane, the specimen on a tag; head, a fore wing and a middle and hind tibia on a slide.

2. RHOPALENCYRTOIDEA CLARIPENNIS new species.

Female:—Length, 2.30 mm., excluding ovipositor.

Black-purple, the scutum green, the wings hyaline, the extruded valves of ovipositor concolorous; venation and antennæ black, also the legs except trochanters, knees, tips of tibiæ (sometimes distal half of middle tibiæ) and the tarsi which are reddish brown. Head and thorax very finely minutely densely scaly and with numerous obscure pin-punctures over the surfaces. Axillæ separated a short distance, transversely scaly. Pubescence not conspicuous. Mandibles with the two outer teeth subequal and longer than the inner. Scape distinctly dilated ventrad toward apex but not greatly so; pedicel short, a little longer than wide and barely longer than funicle 1 which is barely longer than wide; funicle joints alike but the distal three shortening a little, 6 a little wider than long. Club a little wider, hardly as long as the three preceding joints united. Wings long, extending nearly to tip of ovipositor valves; marginal vein a little over twice longer than wide, the postmarginal a little longer than it, the stigmal a little longer than the postmarginal. Oblique hairless line narrow, incomplete; discal cilia dense and fine; a little staining between stigmal and postmarginal veins; marginal fringes exceedingly short. Hind tibiæ a little dilated at apex, the spur as long as the basal joint of the tarsus which bears yellowish comblike teeth as in many eupelmines. Hind femur compressed. Abdomen conic-ovate, acute, flat above, keeled beneath, a little longer than the thorax (excluding ovipositor) the valves of ovipositor distinctly exserted for a length equal to somewhat over a third of the abdomen's length. Abdomen glossy, sculptured like the thorax but even finer and the punctures are absent. Vertex tolerably wide between the eyes, the ocelli in an equilateral triangle, the lateral ones just separated from the eyes. Head sculptured like the scutum, the face inflexed

but the frons barely visible from lateral aspect. Antennæ inserted rather near the clypeus, the scrobes converging above, tolerably long. Mesopleurum finely polygonally lined or reticulated. Epistoma carinated between the antennæ. Cheeks about as long as the eyes.

Male:—The same as the female but the antennæ 11-jointed, one short ring-joint, the club 2-jointed. Funicle 1 much longer than wide, the following shorter. Funicle joints with numerous rather long hairs.

From many female specimens and several males labelled "From Gall No. 20, H. Hacker."

Habitat: Brisbane, Queensland.

Types: No. *Hy 3019*, Queensland Museum, Brisbane, four females and two heads on a slide, 5 females on a tag and one male head on the slide.

3. RHOPALENCYRTOIDEA DUBIA new species.

Female:—Length, 1.32 mm., excluding ovipositor, the latter extruded for a length nearly equal to that of the abdomen.

Differs from the genotype in being more robust, the axillæ are distinctly separated for some little distance, the head slightly longer than wide, eyes somewhat longer than the cheeks and the marginal vein is twice longer than wide yet somewhat shorter than the stigmal, the latter slightly shorter than the postmarginal. Very dark metallic purplish, nearly black, the base of abdomen blue, wings hyaline. Apex of scutellum greenish. Venation dark. First two pairs of tarsi and distal half or nearly of middle tibiæ reddish yellow. Scutum projected between the axillæ. Scutum and scutellum densely polygonally scaly and with very many scattered setigerous pin-punctures, the pubescence soft not conspicuous. Frons moderate. Funicle 1 subquadrate, 3 and 4 longest, a little longer than wide, the other joints slightly shorter. Pedicel subequal to funicle 3 or a little longer. Club a little over half the length of the funicle and plainly wider. Hairless line of fore wing with about six scattered lines of cilia proximad of it. Hind tibial spur single. Body slightly flattened. Scutellum at base at meson with a short carina (yet the axillæ plainly separated!)* Abdomen scaly. Scutellum extending to base of abdomen. Fore wings broad.

Differs from *Cerchysius australiensis* in general coloration, the axillæ are separated and so on. From *claripennis* differs in not having the middle knees broadly reddish yellow (*i.e.*, knee, proximal end of tibia, distal end of femur) nor the middle femur broadly so colored at base, in having the carina at meson of base of scutellum, the axillæ a little more separated, the body distinctly shorter not slender, the axillæ polygonally scaly, not very finely transversely lined and so on.

Described from one female caught in a mangrove swamp along the Tweed River, May 14, 1914 (A. P. Dodd).

Habitat: Chindera, New South Wales.

Type: No. *Hy 3020*, Queensland Museum, Brisbane, the specimen on a tag; head, fore wing and a hind tibia with slide type of *Cerchysius robustus* Girault.

Genus CERAPTROCERUS Westwood.

1. CERAPTROCERUS EMERSONI new species.

Female:—Length 1.75 mm. Form slender, the abdomen pointed conic-ovate, longer than the thorax.

Metallic blue-green, the abdomen darker; first two pairs of legs pale yellowish; caudal coxæ concolorous at proximal half, caudal legs reddish brown. Face ventrad of antennæ ivory yellow. Tips of hind tibiæ and the tarsi whitish. Fore wings sooty and with the following normal pattern: A narrow longitudinal clear streak from base to some distance distad of apex of venation and caudad of middle; this stripe is broken just opposite origin of marginal

* In all other cases where the carina is present, the axillæ are joined to it, *i.e.* meeting inwardly.

vein and is more distinct distad; the region surrounding apex of submarginal vein; a space just distad of venation and irregularly joined to this farther distad a large, obliqued hyaline spot on margin; similar spot on cephalic margin before apex; a small, inconspicuous clear space at middle of apex; and two marginal spots caudad, opposite to the cephalic two but smaller; the proximal of these two is round. Body finely transversely scaly-reticulate; a short line of delicate punctures in the middle of the flat vertex caudad; thorax with numerous scattered setigerous pin-punctures. Axillæ a little separated. Head triangular from lateral aspect, the vertex long, the frons prominent; a line of minute punctures along lateral and cephalic margin of vertex. Frons moderate (about 8 times the diameter of the small cephalic ocellus). Mandibles with three short, equal teeth. Fore wing narrow, the marginal fringes somewhat longer than usual, the marginal vein about six times longer than wide, somewhat over twice the length of the stigmal and rather thick, the postmarginal absent. Hairless line not well defined. Scape greatly flattened; pedicel very small, flat; funicle joints all much wider than long, the first three shortest, one end curved and pointed; club 3-jointed, no wider than the funicle and a little shorter. Hind tibiæ with one distinct tibial spur. Legs slender. Pronotum transverse-quadrate, a third the length of the scutum.

From one female taken in forest, April 24, 1914.

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 3021*, Queensland Museum, Brisbane, the specimen on a tag; head, hind tibia and a fore wing on a slide.

This species most probably belongs here but the descriptions of the genus are lacking in numerous particulars.

Dedicated to Ralph Waldo Emerson.

Genus CHRYSOPOPHAGUS Ashmead.

1. **CHRYSOPOPHAGUS MAZZININI** new species.

Female:—Length, 1.65 mm.

Dark metallic purple, the scutellum at cephalic two thirds lemon yellow, rest brown yellow; mesopleurum, venter and sides of abdomen, cephalic and middle femora, head, scape, venter of thorax, cephalo-lateral angle of pronotum and face of the latter yellowish brown. Frons washed with purplish; dorsum of abdomen except across base, suffused with brownish. Fore wing at extreme base and from origin of marginal vein not quite to extreme apex, deeply embrowned. About four lines of black cilia proximad of hairless line, these twice coarser than the main ciliation. Marginal vein elongate, four or more times the length of the short stigmal, the postmarginal a little over half the length of the stigmal; a small, clearer spot at apex of venation, a longer one nearly opposite at caudal margin. Fore wings narrow. Hind tibiæ with one spur. Mandibles slender, with three equal acute teeth of which the middle is a little the longest. Scape long, curved, very slender; pedicel subequal to funicle 4 which is somewhat longer than wide; funicle 1 longest, somewhat over twice longer than wide, cylindrical; flagellum after funicle 2 compressed, funicle 6 a little wider than long; club distinctly less than half the length of the funicle. Frons moderately broad; lateral ocellus over its own diameter from the eye margins. Cheeks half the length of the eyes. Scutellum with a tuft of black bristles. Ring-joint present. Head sublenticular. Frons punctulate. A short carina between the confluent axillæ, the latter yellowish brown laterad. Thorax densely, finely scaly. Scutum with short, contrasting silvery white hairs. Pronotum large, not much shorter than the scutum. Legs slender.

From one female on a tag; head, fore wing and hind tibia on a slide.

Habitat: Gordonvale (Cairns), Queensland. Forest, August 4, 1913.

Type: No. *Hy 3022*, Queensland Museum, Brisbane, the specimen on a tag; head, fore wing and a hind tibia on a slide.

Dedicated to Joseph Mazzini.

2. CHRYSOPOPHAGUS PURPUREICINCTUS new species.

Female:—Length, 2 mm. Ovipositor slightly extruded, silvery white.

Orange yellow, the scutum with a tolerably broad (over distal half) purple band across its caudal margin. Abdomen purplish across base and at apex dorsad and laterad and half way down lateral margins from base. Coxæ, knees, tarsi and tips of hind tibiæ silvery white. Caudal tibiæ, funicle and club purple. One side of apex of joints 1-5 of funicle pale yellowish. Pedicel longer than any of the funicle joints of which 1, 3 and 4 are longest, 4 wider than 1 and 3, compressed; 5 and 6 still wider, barely longer than wide; 1 a half longer than wide. Caudal tibial spurs double. Fore wings about as in *mazzinini* but more darkly infuscated, the pair of hyaline areas at apex of venation larger, the base of the wings more broadly infuscated, the distinct concave curve of the submarginal vein distad is more pronounced and the infuscation is accented over the discal cilia proximad of the hairless line. Also, the stigmal vein is twice longer, the postmarginal only slightly shorter than it. Besides coloration, differs from *mazzinini* in having the antennæ less compressed, the ocelli in a flat triangle (isosceles in the other species, or nearly), the mandibles stouter. Axillæ with a carina between them. Purple band of scutum with silvery pubescence. Disk of scutellum lemon yellow. Thorax scaly. Scutum wider than long, shorter than scutellum.

From one female caught in forest, July 27, 1914.

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 3023*, Queensland Museum, Brisbane, the specimen on a tag; head, fore wing and hind tibiæ with slide type of *Œncyrtus bicolor* Girault.

Genus COCCIDENCYRTUS Ashmead.

1. COCCIDENCYRTUS BICOLORICORNIS new species.

Female:—Length, 0.75 mm.

Purplish black, the wings hyaline; distal half of middle tibiæ, tips of other tibiæ, knees and tarsi yellowish white; tip of scape and first four funicle joints white.

Antennæ inserted at the mouth border, the scrobes long, the head rounded, the cheeks longer than the eyes, the frons moderate; antennæ capitate, the club large and appearing somewhat topheavy, thick, oval, three fourths as long as the funicle, the joints of the latter gradually enlarging distad, all wider than long, 1 shortest, the pedicel twice its length yet only a little longer than wide. Club truncate at apex. Mandibles rather long, with three rather small, subequal, acute teeth at apex, the middle tooth longest. Scape long, subcompressed. Marginal vein punctiform, the postmarginal as long as the marginal, the stigmal of moderate length, about two and a half times longer than the marginal, thus not long. Scutellum densely, longitudinally striate but at tip abruptly scaly and metallic green. Scutum and head obscurely punctate. Abdomen short, depressed, triangular, the ovipositor not exserted, the surface shining, feebly sculptured. Axillæ feebly sculptured, slightly separated.

Male:—The same but the funicle and club honey yellow, the antennæ 10-jointed, the club solid, longer than the funicle joints which are subquadrate, rather stout, bevelled off a little on one proximal corner and clothed with short, stiff hairs which are not whorled and not very long. Lateral ocellus about its own width from the eye margins.

From one female, six males labelled "No. 29. 25-10-13 on *Eugenia* fruit and flowers. G. F. Hill."

Habitat: Port Darwin, Northern Territory.

Types: No. *Hy 3024*, Queensland Museum, Brisbane, four males on a card, one female head and three males on a slide.

Also, one female, forest, Burnett Heads, Queensland, June, 1914 (A. P. Dodd).

PARASYRPOPHAGUS new genus.

Female:—In my table of genera runs to *Helegonatopus* Perkins but differs in having the marginal, postmarginal and stigmal veins subequal, the marginal vein about two and a half times longer than wide. Also, the scape is stout and not long, the club only slightly wider than the funicle and only about half its length, the funicle joints widening a little distad, all a little wider than long and somewhat shorter than the pedicel. Valves of ovipositor extruded a very short distance. Frons subprominent, the vertex a little flattened. Face much inflexed. Head rounded. Axillæ with a weak carina between them. Frons moderate in width. Pronotum transverse-linear. Hairless line of fore wing well defined, the blade ciliate to base from it.

1. PARASYRPOPHAGUS FUNERALIS new species. Genotype.

Female:—Length, 0.95.

Dark metallic purple, the legs reddish yellowish except caudal coxæ and caudal femora, the latter dusky, rather stout. Body delicately, polygonally scaly, the scutum with scattered pubescence. Scape pale yellow, rest of antenna black. Club ovate. Funicle joints with rather conspicuous, rather dense, tolerably long pubescence, less dense on the pedicel, the scape with numerous scattered, rather long hairs and apparently dilated from lateral aspect but no true foliation. Caudal wings with about a dozen lines of uniform discal ciliation where widest. Venation fuscous; a rounded, dusky spot against marginal vein and under the venation, the blade is irregularly very lightly smoky. Hind tibial spur single, small. Mandibular teeth acute, the outer a little the shortest. Costal cell of caudal wings not extending to the hooklets by far. Axillæ not especially narrow, rather broad; meson of scutellum and the apex rather broadly glabrous. Cheeks two thirds the lengths of the eyes. Abdomen conic-triangular, depressed, about as long as the thorax.

From one female captured in jungle, Tweed River, May 4, 1914 (A. P. Dodd).

Habitat: Tweed Heads, New South Wales.

Type: No. *Hy 3025*, Queensland Museum, Brisbane, the specimen on a tag; head, pair of wings and hind tibiæ with the slide type of *Hexencyrtus fumosipennis* Girault.

2. PARASYRPOPHAGUS SEMIARGENTIPES new species.

Female:—Length, 1.10 mm.

Differs from the genotype in having the abdomen distinctly longer, somewhat longer than the rest of the body, the coxæ and proximal two thirds of femora silvery white, rest of legs yellowish tinged with slight reddish; also the wings are slightly dusky but there is no distinct spot against the marginal vein, the hairless line has only about six lines of cilia proximad of it, the venation is yellow and the funicle joints all a little longer than wide and slightly wider distad, 1 and 2 a little the shortest. Pedicel slightly longer than funicle 6. Scape yellow, dusky at tip above, cylindrical. The frons is somewhat broader, the cheeks a little longer than in the genotype. Bulla dusky black. Hind tibial spurs double. Otherwise like the genotype.

From one female captured in jungle, May 3, 1914 (A. P. Dodd).

Habitat: Tweed Heads (Tweed River), New South Wales.

Type: No. *Hy 3026*, Queensland Museum, Brisbane, the specimen on a tag with type of genotype; head, fore wing, a middle tibia and caudal tibiæ with slide type of *Hexencyrtus fumosipennis* Girault.

HEXENCYRTUS new genus.

1. HEXENCYRTUS ALBICLAVA new species. Genotype.

Female:—Length, 1.60 mm. excluding the normal, shortly extruded portion of ovipositor.

Orange yellowish; scutum except along the median line, the scutellum except lateral and caudal margins, cephalic margin of propodeum and laterad, the dorsum of abdomen except

at base and the caudal margin and neck of pronotum, metallic purple. Face washed with metallic purple. Fore wings uniformly embrowned from about the middle of the submarginal vein distad to apex. Funicle purplish; funicle 6 at tip and the club silvery white. Extruded valves of ovipositor which are no longer than a fourth the length of abdomen, purple. Abdomen ventrad at distal fourth purple. Mesopleurum purple.

Head lenticular, the antennæ inserted in the middle or only a little below, the scrobes absent or nearly, the frons moderately broad, the ocelli in a straight line, not near the eyes, the latter long, over twice the length of the cheeks. Mandibles with two lateral teeth acute, subequal, the inner distinctly shorter, truncate but not very broad. Marginal vein about twice longer than wide, the stigmal and postmarginal veins subequal, each somewhat shorter. Oblique hairless line present, narrow, rather obscure. Funicle joints elongate, 1 and 2 subequal, about five times longer than wide, each over twice the length of the pedicel, 6 a little longer than the pedicel, a little over twice longer than wide. Club joints not very distinct. Scape stout, long. Metapleura purple. Head and thorax feebly reticulated and with short black pubescence from minute setigerous punctures. Propodeum with three sharp ridges at meson, all separate. Fore wing densely ciliated discally, the marginal fringes short. Axillæ just not meeting acutely. Propodeal spiracle small, round, cephalad, a long lateral carina (near lateral margin) leading straight from the latero-caudal corner. Club of antenna rather long, somewhat wider than the funicle. Hind tibial spur single, distinct. Scutum somewhat longer than the scutellum. Hairless line of fore wing with very many lines of cilia proximad of it.

From one female caught in jungle, June 10, 1913 (A. P. Dodd).

Habitat: Upper Mulgrave River (Gordonvale), Queensland.

Type: No. *Hy 3027*, Queensland Museum, Brisbane, the female on a tag; head, hind tibia and fore wing on a slide.

This genus runs to *Hexacladia* Ashmead but differs in the venation.

The club is not as long as the preceding three joints taken together. Scape not extending beyond the vertex. Antennæ inserted much above the ventral ends of the eyes.

2. HEXENCYRTUS FUMOSIPENNIS new species.

Female:—Length, 1.90 mm.

Agrees with *Hexacladia* Ashmead but the scape is compressed yet long but not extending any distance beyond the ocelli; also the marginal vein is distinctly somewhat longer than the other two veins and about thrice longer than wide; postmarginal vein a little shorter than the stigmal. Mandibles with the two outer teeth acute, the second longer, the third tooth shortest and concavely truncate and rather broad. Funicle joints elongate, the pedicel only one and a half times longer than wide at apex. Frons broad, convex; cheeks less than a third the length of the long eyes. Axillæ separated by a short carina. Valves of ovipositor exserted for a fifth the length of the abdomen. Hind tibial spur single, stout. Club 3-jointed.

Dark metallic blue, the neck of pronotum, propleurum, axillæ and base of abdomen narrowly, orange yellow. Legs and scape yellowish brown; flagellum black except club and distal third of funicle 6 which are silvery white. Fore wings deeply fuscous from base to apex, the hind wings dusky. Scape and flagellum hispid (excluding club). Funicles 1 and 2 subequal, twice the length of the pedicel, about five times longer than wide, 3 and 4 subequal, 6 twice longer than wide; club only a little wider, about a third the length of the funicle. Oblique hairless line with many fine lines of cilia proximad of it. Head and thorax finely reticulated, the thorax with numerous minute setigerous punctures. Propodeum with three well separated median carinæ and a narrow carina just laterad of the minute spiracle and which curves around it to run along (mesad) the cephalic margin; just mesad of this carina and infolded by its two arms (the lateral and cephalic) the propodeum bears fine longitudinal striæ; between these and meson, glabrous. Hairless line of fore wing closed caudad.

From one female caught by sweeping in jungle, March 1, 1914.

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 3028*, Queensland Museum, Brisbane, the specimen on a tag; head, a hind tibia and a fore wing on a slide.

This species differs from the genotype mainly in coloration but also the ocelli are in a slightly curved line and are somewhat larger. Compared with type of *albiclava.* Also, in the latter, the axillæ are separated and without a carina between them. Both species bear scattered pubescence from pin-punctures on scutum and scutellum.

ZAOMENCYRTUS new genus.

1. ZAOMENCYRTUS LEPIDOPTEROPHAGUS new species. Genotype.

Female:—Length, 0.60 mm.

Dark metallic purple, the wings hyaline but with a little stain at the marginal vein; base of abdomen across orange yellow. Legs yellow, washed in places with metallic. Antennæ strongly capitate, the club as long as the funicle, large, obliquely truncate from one side. Pedicel stout, longer than any of the funicle joints yet not much longer than wide; funicle joints enlarging distad, 6 widest and longest, somewhat wider than long, 1 and 2 subequal, much smaller than 6; antennæ 10-jointed, no visible ring-joint, the club only 2-jointed, the distal joint much the longest, the proximal joint much wider than long; club obtusely pointed. Marginal vein slightly longer than wide, the postmarginal somewhat shorter, half the length of the stigmal. Wings broad, with the usual hairless line. Mandibles as in *Coccidencyrtus bicoloricornis* as is also the body and head, the cheeks as long as the eyes, the head (cephalic aspect) somewhat longer than wide. Abdomen shaped as in the species named. Scape long, slender. Head scaly reticulate. Lateral ocelli their own diameter from the eye margins. Scrobes forming a long, rounded triangle. Frons rather broad. Scutum sculptured like the head but with additional minute, scattered setigerous punctures. Axillæ extraordinarily finely, transversely lined. Scutellum finely, longitudinally lineolated, scaly at apex. Axillæ a little separated. Abdomen scaly. Metapleurum bare. Segment 3 of abdomen long, occupying half or more of the surface. Mandibles slender.

Very similar in form and most structures to *Coccidencyrtus bicoloricornis.*

From many females labelled "Nat. Mus. Victoria. Reared from supposed moth pupa on *Eucalyptus* tree near base, May, 95."

Habitat: Melbourne, Victoria.

Types: In the National Museum, Melbourne, two females on a tag, two heads on a slide.

ZOOENCYRTUS new species.

1. ZOOENCYRTUS ACUTIVENTRIS new species. Genotype.

Female:—1.30 mm.

Dark metallic green, the scutellum and abdomen except at base, purplish, the legs straw yellow. Tip of scape white. The distal half of that part of the blade of the fore wing distad of apex of the stigmal vein, distinctly dusky, the dusky area covering the apex of the wing and conically projected a little past apex of stigmal vein, the projection a little obliqued caudad. Mandibles not especially long, with three subequal acute teeth. Scape dilated but not greatly, not extending beyond the venter—the antennæ inserted a little above the ventral ends of the eyes yet a little below the middle of the face, the pedicel somewhat over twice longer than wide, a little longer than funicle 1 which is a little the longest of the funicle; funicle 6 somewhat longer than wide. Club somewhat over a third the length of the funicle; ring-joint present. Marginal vein about four times longer than wide, the stigmal three-fourths the length of the marginal, the postmarginal a little shorter than the stigmal; marginal fringes and the oblique hairless line present. Axillæ just meeting inwardly, the head and thorax finely, densely scaly, the abdomen a little less distinctly so, pointed conic-ovate, somewhat longer than the thorax, the ovipositor not exserted. Scutellum densely scaly punctate. Frons moderately broad; cheeks as long as or a

little longer than the eyes; scrobes rather short, not meeting above, the cavity divided by a median ridge. Frons not prominent. Face rather strongly inflexed. Scutellum a little shorter than the scutum, the latter with scattered hispidescence from minute, very obscure punctures. Fore wing with uniform discal cilia. Head rounded.

From two females captured in jungle, March 5, 1914.

Habitat: Gordonvale (Cairns), Queensland.

Types: No. *Hy 3029*, Queensland Museum, Brisbane, the two females on a tag; head and fore wing on a slide.

Hairless line of fore wing with about five lines of cilia proximad of it. Fore wings rather slender.

Differs from *Encyrtus* in being wholly metallic, in having the frons broad, the longer marginal vein which is somewhat longer than the stigmal.

EPIENCYRTOIDES new genus.

1. EPIENCYRTOIDES QUADRIDENTATUS new species. Genotype.

Female:—Length, 0.83 mm. Depressed. Valves of ovipositor slightly extruded.

Rather light metallic green, the abdomen coppery except at base; legs white except intermediate and hind coxæ, hind femur, hind knee and a band around hind tibia just below and not at knees. Antennæ white except proximal two joints of club, scape at sides of tip and proximal part of pedicel. Fore wing dusky at distal third, the proximal margin of the infuscation acute at center, concaved on each side from this; also a dusky area along and against the marginal vein and obscurely opposite that vein at caudal margin. Scutellum densely punctulate. Body delicately scaly. Scape a little compressed; pedicel somewhat longer than either of the distal two funicle joints which are nearly subequal, largest, somewhat wider than long, the preceding four joints subequal, much wider than long, each not half the length of joint 5; ring-joint very short; club subequal to the funicle and wider. Marginal vein two and a quarter times longer than wide, the stigmal a fourth shorter than it, the postmarginal a little shorter than the stigmal; oblique hairless line present. Fore wing very lightly stained under all of venation. Mandibles with four distinct, small teeth, the outer a little the longer and more acute. Frons moderately broad. Cheeks subequal to the eyes. Face rather strongly inflexed. Axillæ narrow, joined, a short carina between them. Head (cephalic aspect) rounded. Scutellum triangular, the apex obtuse. Hind tibial spur small. Infuscation of fore wing generally coterminous with the discal ciliation.

From one female caught June 27, 1913 by sweeping in forest.

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 3030*, Queensland Museum, Brisbane, the female on a tag; head, a fore wing and hind tibia on a slide.

Later, two females, Kuranda, open jungle, January, 1913 (A. P. Dodd) and one at Burnett Heads, Southern Queensland, forest, June, 1914 (A. P. Dodd). Also one in forest, May 13, 1914, Chindera (Tweed River), New South Wales.

Club conic-ovate, not obliquely truncate. Funicle joints enlarging distad.

2. EPIENCYRTOIDES AXILLARIS new species.

Female:—Length, 0.78 mm. Differs notably from the genotype in having the axillæ distinctly separated for some distance.

Similar in form to the genotype. Dark metallic green, the scutum blue, the wings hyaline excepting just under or along the marginal vein. Abdomen darker except at base. Legs about as in the genotype but the hind tibiæ are all black except at each end rather broadly and the middle tibiæ have a dusky spot ventrad below knee. Sculpture about as in the genotype; also the venation but the discal ciliation of the fore wing is uniform nearly to the hairless line,

the latter with about five lines of cilia proximad of it. The stigmal vein is shorter, subsessile. Antennæ as in the genotype except that the pedicel is somewhat shorter. The frons is a little broader. Otherwise like the genotype.

From one female caught in forest, December 23, 1913.

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 3031*, Queensland Museum, Brisbane, the specimen on a tag with type of *quadridentatus*; head, fore wing and hind legs with slide type of *Achrysophagus westwoodi* Girault.

NEZARHOPALUS new genus.

1. NEZARHOPALUS CAUDATUS new species. Genotype.

Like *Zarhopalus* Ashmead but the funicle joints not annular.

Female:—Length, 0.60 mm., excluding ovipositor which is extruded for three fourths the length of the abdomen. Slender.

Dark metallic green, the wings hyaline; legs, antennæ and ovipositor concolorous; knees, tips of tibiæ and tarsi pallid. Scape a little compressed, tapering toward tip; funicle 6 largest, much wider than long (not annular), over twice the width of 1, distinctly shorter than the usual pedicel; club enlarged, subequal to funicle in length; funicle widening rather rapidly distad; scape more or less equal to the funicle. Mandibles with three acute teeth. Frons rather narrow, prominent, the cheeks over half the length of the eyes. Venation pallid. Hind femur compressed. Thorax with a short phragma. Axillæ slightly separated. Scutum a little longer than the scutellum. Abdomen conic-ovate, nearly as long as the thorax. Cephalic legs paler. Hind tibial spur minute. Fore wings densely, finely ciliate, the hairless line present, proximad of it, the discal cilia arranged only in two conspicuous lines. Venation as described for *Zarhopalus* Ashmead. Marginal vein punctiform, the stigmal and postmarginal very long, subequal.

From one female captured July 28, 1913 in jungle (A. P. Dodd).

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 3032*, Queensland Museum, Brisbane, the female on a slide.

NEASTEROPÆUS new genus.

Female:—Runs to *Asteropæus* Howard but the funicle is a little longer than the club, the frons is subprominent only, the postmarginal vein a little shorter than the marginal which is about twice longer than wide. The axillæ are distinctly a little separated and the ovipositor extruded for a length equal to a fifth that of the abdomen.

1. NEASTEROPÆUS CAUDATUS new species. Genotype.

Female:—Length, 0.85 mm. excluding the ovipositor.

Dark metallic purple, the scutellum green, the first two pairs of legs (except coxæ), the caudal knees and tarsi and distal half (or a little more) of caudal tibiæ, whitish. Funicle and club brownish yellow. Wings hyaline but with a dusky spot against whole of the side of the stigmal vein. Venation black. Hairless line of fore wing with about a half dozen lines of cilia proximad of it. Pedicel slightly longer than wide, longer than funicle 6 which is largest and a half wider than long; funicles 1-2 subequal, ring like; funicle joints enlarging distad. Frons moderate. Cheeks as long as the eyes, the head rounded. Mandibles with two short outer teeth and a third broad one, the latter truncate, the mandibles small. Scape subequal to the club. Hind tibial spur weak. Fore wings broad, very finely ciliate. Body scaly. Scutellum reaching base of abdomen. Pubescence soft, weak. Abdomen pointed, conic-ovate, as long as the thorax. Axillæ narrow. Pronotum transverse-linear.

From one female caught by sweeping on Tweed River, May 10, 1914 (A. P. Dodd).

Habitat: Murwillumbah, New South Wales.

Type: No. *Hy 3033*, Queensland Museum, Brisbane, the specimen on a tag; head, fore wing and a hind tibia with slide type of *Tanaostigmoidella nympha* Girault.

2. NEASTEROPÆUS CINCTIPES new species.

Female: Length, 0.80 mm., excluding the ovipositor.

Dark metallic coppery, the scutum dark blue; knees, tips of tibiæ and tarsi pale yellowish; middle tibiæ white with a black band just below knee. Thorax scaly. Funicle yellowish, rest of antennæ black. Differs from the genotype in coloration and as follows: The wings are wholly hyaline, the venation paler, the hairless line is bounded by but a single line of cilia proximad (excluding several cilia in a second line); the third tooth of mandible is obtuse not truncate; and the club is broader. Also, funicles 1-3 are longer, each only a a little wider than long, 3 shortest of them. Otherwise about the same.

Described from one female caught at 2,000 feet, June 3, 1913 in forest (A. P. Dodd).

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 3034*, Queensland Museum, Brisbane, head, fore wing and hind tibiæ on a slide with slide type of *Hexencyrtus albiclava* Girault. Body of type accidentally destroyed.

PARÆNASOMYIA new genus.

1. PARÆNASOMYIA ORRO new species.

Differs from *Ænasiella* in having the club conic-ovate, the ovipositor extruded and the axillæ separated.

Female:—Length, 1.30 mm., excluding the ovipositor which is extruded for a fourth the length of the abdomen.

Dark metallic purple, the apex of scutellum and abdomen metallic green, the wings hyaline; venation yellowish brown. Apex of valves of ovipositor, tips of tibiæ (more broadly in middle legs), knees and tarsi white. Funicle suffused with yellowish. Scutum and axillæ very finely, densely, polygonally scaly, the latter distinctly separated for some little distance. Scutellum scaly, the scaliness with a distinct longitudinal trend. Scutellum reaching base of abdomen, the latter scaly. Scutum with scattered obscure setigerous punctures, the pubescence moderate, soft normal. Abdomen conic-ovate, inclined upward at apex, as long as the thorax. Scape with a slight but distinct foliaceous expansion toward apex; a little longer than the club, the latter somewhat wider than the funicle and a little over half its length. Funicles 1-3 subequal to each other and to the pedicel but 3 wider, 1 a little over twice longer than wide; funicle 4 a little shorter than 3, 5 still shorter and wider, 6 barely longer than wide. Ring-joint present. Marginal vein punctiform, the postmarginal subequal to it, the stigmal normal, thrice the length of the marginal. Hairless line of fore wing with only one distinct line of cilia proximad of it. Fore wings broad. Hind tibial spurs double. Mandibles with the two inner teeth shorter than the outer, not long. Frons moderately narrow. Face deeply inflexed, the frons not prominent.

From one female caught in forest, January 7, 1913.

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 3035*, Queensland Museum, Brisbane, the female on a tag; head, fore wing and hind tibiæ with slide type of *Cerchysiella nigrella* Girault.

Many specimens were found later which had been reared from oval cecidomyiid galls on *Melaleuca*, Gordonvale, April, 1913 (A. P. Dodd). A few males were present. In this sex the frons is somewhat broader, the antennæ yellow except scape and pedicel, the club solid, the funicle and club clothed with long scraggly hairs which are not in distinct whorls. Also, the scape is shorter and more dilated, the funicle joints longer than wide but shortening distad, the pedicel subglobular, wider than long. The face is metallic green in the male. In one female specimen, there was a distinct carina at meson of base of scutellum but the axillæ were distinctly separated as in the other specimens!

PARENCYRTOMYIA new genus.

1. PARENCYRTOMYIA NIVEICLAVA new species. Genotype.

Female:—Length, 1.90 mm. Robust.

Deep orange yellow, the pronotum, except caudo-mesad, head, propodeum, dorsum of abdomen except at distal fourth and at base mesad and the mesopleurum, deep metallic purple; scrobicular cavity, scape and legs yellow; antennæ purple, the club white. Head and thorax finely scaly, a row of small punctures along the eyes on vertex; thorax with numerous, obscure setigerous punctures. Axillæ a little separated. Abdomen a little shorter than the thorax, acutely triangular, depressed; ovipositor a little extruded. Mandibles with three short, subequal teeth, the outer one acute, the mandibles rather short and stout. Fore wings distinctly infuscated at distal fourth or more (but apex clearer), the infumation acuminately prolonged proximad to the oblique hairless line; lightly stained under submarginal vein. Marginal vein two and a third times longer than wide, subequal to the postmarginal, the stigmal a little longer. Half a dozen lines of coarser cilia proximad of the hairless line. Head (cephalic aspect) longer than wide, the frons moderate (about 5 times the diameter of the large cephalic ocellus), the cheeks over half the length of the eyes. Inner tooth of mandibles blunt. Hind tibial spur stout. Scape long and slender, the pedicel subelongate, not quite thrice longer than wide, somewhat shorter than funicle 1 which is longest and about four and a half times longer than wide; 2 and 3 each a little shorter in succession; funicle 6 a little longer than wide. Club not half the length of the flagellum. Face inflexed, the frons not especially prominent. Scutellum shorter than the scutum. Club joints not very distinct.

From one female caught by sweeping flowers in a garden, February 18, 1913.

Habitat: Ripple Creek (Ingham), Queensland.

Type: No. *Hy 3036*, Queensland Museum, Brisbane, the specimen on a tag; head, hind tibiæ and a fore wing on a slide.

Genus SCHEDIUS Howard.

1. SCHEDIUS UNCINCTIPES new species.

Female:—Length, 1.15 mm. Differs from the genotype in having the frons broader, the club obliquely truncate, the funicle joints wider than long, the mandibles rather long and with three acute teeth of which the mesal is longest. Also, the scutellum extends to base of abdomen.

Brilliant metallic green, the abdomen darker, the wings hyaline; legs (except all coxæ and a broad concolorous band on hind tibiæ a short distance distad of knee and extending to middle) and antennæ (except pedicel above at proximal two thirds) silvery white. Head and thorax densely punctulate, the axillæ smoother, reticulated. Abdomen scaly. Frons moderately broad. Cheeks very short, about a fourth the length of the eyes or a little less. Frons subprominent, the vertex nearly flat. Ring-joint present. Pedicel as long as funicles 1 and 2 united, barely longer than wide; funicle 6 widest and longest, nearly twice wider than long, 5 a little longer than it, longest, 2 and 3 subequal, a little wider than 1. Club a little over half the length of the funicle and distinctly wider.

Lateral ocelli nearly their own diameter from the eyes. Hind femur compressed, the hind tibial spurs single. Tarsal joints of caudal legs all longer than wide, 1 and 5 subequal, 1 a little longer, over twice longer than wide. Venation pallid. Marginal vein slightly longer than wide; other veins about as in the genotype. Hairless line of fore wing with only about three lines of discal cilia proximad of it. Pronotum transverse-linear. Scutum long. Abdomen as figured for the genotype. Fore wings with about 40 lines of very fine discal cilia where widest.

Described from one female, forest, July 9, 1914.

Habitat: Meerawa (Cairns), Queensland.

Type: No. *Hy 3037*, Queensland Museum, Brisbane, the female on a tag; head, fore wings and hind tibiæ with slide type of *Ectromoides purpureiscutellum* Girault.

Genus COPIDOSOMA Ratzeburg.

1. COPIDOSOMA COMPRESSIVENTRIS new species.*

Female:—Length, 1.35 mm., excluding ovipositor which is extruded for a length nearly equal to that of the abdomen.

Dark metallic coppery green, the wings hyaline; tarsi pale. Body polygonally scaly. Venation dusky the marginal vein punctiform, the postmarginal a little longer, the stigmal of normal length, thrice the length of the postmarginal. Cilia proximad of hairless line arranged in about seven lines. Mandibles brownish, rather slender, with equal acute teeth. Scape long, tapering distad, nearly as long as the funicle; pedicel a half longer than wide at apex, longer than any of the funicle joints which are subequal and somewhat longer than wide (but 6 a little shorter and wider than 1). Club long, a little wider than the funicle and about nearly two thirds its length, the third joint longest; obtuse at apex. Head triangular, longer than wide, the scrobes long and rather deep, the frons moderate in width, not prominent, the cheeks about as long as the eyes. Tarsal joints not long; hind tibial spur single, slender, not especially long. Abdomen curved upward toward apex and compressed strongly distad, the hypopygium prominent. Club 1 longer than funicle 6. Last two pairs of knees pale. Axillæ rather narrow, distinctly a little separated. Scutum with inclined, scattered pubescence. Pronotum not visible from dorsal aspect. Fore wings with fine discal ciliation, about 40 lines where broadest (proximad of mid-distance between apex of blade and apex of venation).

From one female caught in forest, March, 1914 (A. P. Dodd).

Habitat: Cooktown, Queensland.

Type: No. *Hy 3038*, Queensland Museum, Brisbane, a female on a tag; head, fore legs, caudal tibiæ and a fore wing with slide type of *Cerchysiella umbilicata* Girault.

Genus APHYCUS Mayr.

1. APHYCUS SANGUINITHORAX new species. Differs from the genotype in the venation.

Female:—Length, 0.60 mm.

Blood red, the legs, mesopleurum, ventral third of scape, distal third of pedicel, proximal half of mandibles, funicle and proximal third of abdomen, silvery white; club black; abdomen otherwise brown; scape and pedicel otherwise dusky; first three funicle joints tinged with dusky. Head pinkish suffused with yellow. Fore wing with a sooty stripe across them from the marginal and stigmal veins and beyond them for a distance equal to those veins, this stripe abruptly cut off distad of venation, thus not reaching the cephalic margin. Marginal vein one and three fourth times longer than wide, subequal to the stigmal, the postmarginal present but very short. Discal cilia of fore wing very fine and dense, the hairless line narrow. Pedicel distinctly longer than any of the short funicle joints of which 1-4 are globular or moniliform, 5 wider than long, 6 still wider, longest; club distinctly wider and nearly as long as the funicle. Mandibles small, with three minute teeth at apex. Frons moderately narrow, face inflexed, the cheeks not as long as the eyes. Thorax with distinct, short, silvery pubescence against the red background, densely scaly, the axillæ joined or nearly, the surface densely, finely scaly.

From one female taken by sweeping grass in forest, April 6, 1914.

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 3039*, Queensland Museum, Brisbane, the specimen on a tag; head and part of fore wing on a slide.

A second female, same place, June 8, 1914.

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* A species similar to this (at least in form; not critically examined) was very common in the grass of parks, meadows and so on in late October at Muswellbrook, New South Wales.

NESYRPOPHAGUS new genus.

1. NESYRPOPHAGUS FLAVITHORAX new species. Genotype.

Female:—Length, 0.95 mm. Rather stout. With the habitus of *Encyrtus.*

Orange yellow, the wings hyaline, the antennæ white, legs pale yellow; head and abdomen dark purplish; club and dorsal pedical, dusky. Scape slender; pedicel somewhat less than twice longer than wide at apex, a little longer than funicle 1 which is longest and slightly longer than wide; funicles 2 and 3 subquadrate; remaining funicle joints somewhat wider than long. Club about a half the length of the funicle or a little more. Vertex moderate in width; cheeks subequal to the eyes in length. Marginal vein twice longer than broad, a little longer than the stigmal, the postmarginal short, somewhat longer than wide, the venation pale; oblique hairless line distinct, with about four rows of coarser discal cilia proximad of it. Axillæ joined but separated by a short, distinct carina. Thorax finely scaly, with numerous, small setigerous punctures. Propodeum naked. Pubescence not conspicuous but quite evident on scutum and scutellum. Mandibles with three short teeth. Ring-joint present. Abdomen short, triangular, depressed. Hind tibial spur single. Scutellum purplish mesad just before tip. Frons moderate.

From one female caught in forest, December 19, 1911.

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 3040*, Queensland Museum, Brisbane, the specimen on a tag; head, a fore wing and a hind tibia on a slide.

Later, two females, same place.

The cheeks are nearly as long as the eyes.

2. NESYRPHOPHAGUS UNGUTTATUS new species.

Female:—Length, 1.10 mm.

Very similar indeed to the preceding but differing in that the axillæ are not separated merely by a carina but are distinctly apart for some distance, rather widely separated. The purple spot on scutellum before apex is more distinct. Also, the head is metallic æneous. The marginal vein is a little shorter, the postmarginal longer, somewhat over half the length of the stigmal. Vertex with small thimble punctures, a row of them along the eye. Also funicle 1 is distinctly longer than wide.

From two females caught December 2, 1913 in jungle (A. P. Dodd).

Habitat: Kuranda, Queensland.

Type: No. *Hy 3041*, Queensland Museum, Brisbane, the specimen on a tag; head, antenna and a fore wing on a slide.

Differs from *Syrpophagus* Ashmead in having the scape long and slender, the funicle joints short and the club about half the length of the funicle.

ECHTHROBACCELLA new genus.

1. ECHTHROBACCELLA ARGENTINOTATA new species. Genotype.

Female:—Length, 1.50 mm., excluding ovipositor which is extruded distinctly a short distance. Frons prominent. Varicolored.

Black. The following parts silvery white: Head except center of occiput and two stripes across cheeks beneath the eyes, the ventral one near ventral margin of head, both running to the black of the occiput and barely visible from cephalic aspect; apex of pedicel, scape (except dorsal edge broadly from base nearly to tip and ventrad narrowly all along), pronotum except its entire face, pro- and mesopleurum, prepectus, legs (except ventral edge centrally of cephalic femur, a minute dusky spot dorsad just below knee on cephalic tibiæ, middle knee and a dot just below it laterad and same on hind legs but the spot below

knee a distinct black band and there is a spot before knee on ventral edge of hind femur; also a minute dot on hind tibiæ dorsad two thirds way to apex and the apex of middle tibia narrowly, brown); base of abdomen ventrad and proximal three fourths of margins latero-ventrad (showing dorsad as a marginal spot at proximal third and proximal two thirds), tegulæ and extruded valves of ovipositor at distal half. Scutum and scutellum dark metallic green, the axillæ, lateral margins of scutum rather broadly, lateral and apical margins of scutellum narrowly, orange yellow. Fore wings infuscated from proximal fourth to apex, the infuscation broken by the hyaline hairless line and by a long V-shaped hyaline line whose cephalic arm originates between the stigmal and postmarginal veins. Venation blackish, the marginal vein two and a third times longer than wide, subequal to the stigmal which is about twice the length of the postmarginal. Axillæ just meeting inwardly. Pronotum with short black pubescence, the scutum and scutellum with short silvery pubescence, the surface extremely finely sheened. Abdomen densely scaly, conic-ovate, about as long as the rest of the body. Scutellum large, triangular, the propodeum transverse but visible from above. Mandibles with three equal teeth. Frons subprominent, the vertex flat, rather narrow, the cheeks as long as the eyes. Scape slender, with bulla about as long as the funicle, the flagellum subcylindrical, the club barely wider than the funicle and not quite half as long. Pedicel subequal to funicle 6 which is longest, a little longer than wide, wider than 1 which is subequal to 2 and quadrate. Hind tibial spurs double, the shorter spur no longer than the apical setæ but distinctly stouter. Hairless line of fore wing with many lines of cilia proximad of it.

From one female caught, May 17, 1914 sweeping at 1,000 feet in forest (A. P. Dodd).

Habitat: Upper Tweed River, New South Wales.

Type: No. *Hy 3042*, Queensland Museum, Brisbane, the female on a tag; head, a hind leg and fore wing on a slide.

LEUROCEROIDES new genus.

Female:—Head rounded, the face inflexed, the frons not prominent, moderate in width, the cheeks somewhat shorter than the eyes. Mandibles rather small, slender, with three small acute teeth at apex. Antennæ inserted below the middle of the face but not especially near the mouth border, 10-jointed with one minute ring-joint, the club solid, the scape short, dilated ventrad but not greatly, the funicle joints wider than long, enlarging distad, the first two subequal and smallest. Pedicel a little longer than wide, longer than any of the funicle joints. Funicle 3 distinctly larger than 2 but not much smaller than the following joints. Marginal vein nearly twice longer than wide, slightly longer than the stigmal, subequal to the postmarginal. Hind tibial spur small. Thorax convex, a little longer than the usual abdomen. Axillæ with a carina between them (hence are joined). Scutellum reaching base of abdomen. Legs normal. Pronotum transverse-linear. Middle tibial spur large.

1. LEUROCEROIDES NIGER new species. Genotype.

Female:—Length, 0.75 mm.

Jet, the wings hyaline; funicle and club suffused with brown. Knees, tips of tibiæ and tarsi reddish brown (middle legs), white elsewhere. Venation brown. Whole body extraordinarily finely longitudinally lineolated giving a velvety effect. Mandibles dusky, reddish at tip. Hairless line of fore wing with five lines of cilia proximad of it. Caudal tibiæ clavate.

From one female caught by sweeping in forest, April 20, 1913 (H. Hacker). Queensland Museum Collection.

Habitat: Brisbane, Queensland.

Type: No. *Hy 3043*, Queensland Museum, Brisbane, the specimen on a tag; head, fore wing and hind tibiæ on a slide.

MIRRENCYRTUS new genus.

Female:—Differs from *Encyrtus* in having the mandibular teeth rather long and acute, the third tooth much shorter than the other two, less than a third of their length but acute. Hind tibial spurs double. Frons moderate. Habitus of *Encyrtus.*

1. MIRRENCYRTUS GLABRISCUTELLUM new species. Genotype.

Female:—Length, 1.10 mm.

Dark coppery, the wings hyaline, the legs concolorous except all tarsi, cephalic knees and tibiæ, proximal half of middle femora, middle knees, middle tibiæ except just below knees and caudal knees and tip of caudal tibiæ which are rich reddish brown. Venation blackish, the marginal vein twice longer than wide, slightly shorter than the stigmal, the postmarginal acuminate, about a third the length of the marginal. Hairless line of fore wing not distinct, there being two more or less complete, rather widely separated lines of coarser cilia proximad of the main discal ciliation but not outlining a hairless line. Funicle 1 suffused with yellow; apex of scape white. Funicle joints widening distad and lengthening a little, all distinctly wider than long and a half shorter than the pedicel. Club wider than funicle and slightly over half its length. Dilation of scape rather wide. Cheeks about the length of the eyes. Head coriaceous, with four rows of pin-punctures along the vertex, one row of each side along the eyes. Scutum densely, finely scaly and with many obscure, minute, setigerous punctures. Axillæ distinctly reticulated, separated by a short carina. Scutellum smooth and shining but with rather long, black setæ scattered over the surface. Pubescence of scutum short. Scutellum not quite reaching base of abdomen. Fore wings broad.

From one female caught in jungle, May 4, 1914 (A. P. Dodd).

Habitat: Tweed Heads (Tweed River), New South Wales.

Type: No. *Hy 3044,* Queensland Museum, Brisbane, the specimen on a tag; head, fore wing and a hind tibia with slide type of *Nezarhopalus caudatus.*

NEASTYMACHUS new genus.

1. NEASTYMACHUS AURATICORPUS new species. Genotype.

Female:—Length, 1.70 mm.

Golden yellow, the wings hyaline but a little yellowish along under the venation. A blackish stripe across middle of occiput; face of pronotum, disk of dorsal abdomen and a spot near margin on each side of base, metallic purplish. Axillæ with a short carina between them. Thorax densely minutely scaly and with numerous minute pin-punctures which bear short white hairs. Mandibles with three equal teeth. Scape slender, curved, the pedicel a little over twice longer than wide, somewhat longer than funicle 1 which is subequal to 2, 3 and 4 subequal, a little shorter than 2, 6 a little longer than wide; funicle 1 twice longer than wide. Club barely wider than the funicle, the flagellum filiform. Cheeks two thirds the length of the eyes. Frons moderate. Scrobes forming an elongate triangle. Funicle hispid. Abdomen as long as the rest of the body, pointed triangular. Marginal vein somewhat over twice longer than wide, the stigmal about its length, the postmarginal somewhat over half the length of the stigmal. Ten or more lines of coarser discal cilia proximad of the hairless line. Club somewhat over one third the length of the funicle. Lateral ocelli a little separated from the eyes. Hind tibial spurs distinct, double. Club dusky. Head a little longer than wide. Agrees otherwise with generic description of *Echthrobacca.*

From one female captured in forest, April 24, 1914.

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 3045,* Queensland Museum, Brisbane, the specimen on a tag; the head, fore wing and a hind tibia on a slide.

A second female, March 28, 1914 same place. The wings were hyaline.

PTEROMALENCYRTUS new genus.

Female:—Characterized remarkably as follows: Mandibles with four distinct, short teeth which are smaller mesad; antennæ with one large ring-joint as in some Pteromalidæ, the funicle 5-jointed, the scape much dilated foliaceously and only somewhat longer than wide, the club conical, 3-jointed and not as long as the funicle and only a little wider, the joints of the funicle short; hind femur and tibia distinctly compressed and rather broad. Marginal vein thickened, subquadrate, a very little longer than wide, the stigmal somewhat longer than it, the postmarginal somewhat shorter than the marginal. Hind tibial spur single. Axillæ joined, with a slight carina between them. Abdomen narrower and longer than the thorax, conical, the ovipositor distinctly extruded a short distance. Pronotum transverse. Face inflexed. Frons moderately narrow, narrowing cephalo-ventrad. Cheeks as long as the eyes or a little longer. Middle legs slender, the spur large. Fore wings broad.

1. PTEROMALENCYRTUS QUADRIDENTATUS new species. Genotype.

Female:—Length, 1.39 mm. including ovipositor.

Metallic purple, the wings hyaline the venation brown; tarsi white. Thorax densely polygonally scaly, the axillæ less distinctly so. Scutum with rather sparse pubescence, the scutellum inclined ventro-caudad, nearly reaching base of abdomen, subequal in length to the scutum. Funicle joints subequal, each somewhat wider than long, each distinctly shorter than the pedicel which is stout, a little longer than wide. Club somewhat over half the length of the funicle, longer than the body of the scape. Hairless line of fore wing with three lines of cilia proximad of it. Marginal and discal cilia of fore wing fine.

From one female caught in forest, November 2, 1912.

Habitat: Ayr, Queensland.

Type: No. *Hy 3046*, Queensland Museum, Brisbane, the specimen on a tag; head, fore wing, hind tibiæ and middle leg with slide type of *Ænasomyiella coleridgei* Girault.

PARACÆNOCERCUS new genus.

Female: Runs to *Berccyntus* Howard but the frons is moderate, the marginal vein thickened, quadrate, the postmarginal absent, the stigmal a little longer than the marginal. The axillæ are distinctly separated for some little distance. Club a little shorter than the funicle, not enlarged, long. Mandibles rather slender, with three acute teeth at apex. Mandibles not elongate. Hind tibial spur double. Abdomen triangular, as long as the thorax. Pronotum transverse. Legs slender.

1. PARACÆNOCERCUS PERSEVERANS new species.

Female:—Length, 0.85 mm.

Dark æneous, the scutellum purple, the abdomen dark coppery, the wings hyaline, tips of tibiæ, tarsi and middle knees white, also trochanters; venation black, the stigmal vein colorless. Hairless line of fore wing with only three and a half lines of discal cilia proximad of it. Scape slender, as long as the funicle, the pedicel somewhat longer than wide at apex, longer than any of the funicle joints, the first of the latter distinctly shortest, somewhat wider than long, 2 quadrate, the following joints each slightly longer than the one preceding it. Club joints distinctly longer and larger than the funicle joints, the middle joint a little the longest of the three, longer than wide, wider than the funicle. Fore wings very broad. Cheeks nearly as long as the eyes. Scutellum longitudinally striate, the scutum densely polygonally scaly, the axillæ less distinctly so, the scutellum so at apex. Scutellum extending to base of abdomen, not quite as long as the scutum.

From one female taken in jungle, June 27, 1914 (A. P. Dodd).

Habitat: Childers, Southern Queensland.

Type: No. *Hy 3047*, Queensland Museum, Brisbane, the specimen on a tag; head, fore wing and hind tibia with slide type of *Neocopidosomyia viridiscutellum* Girault.

EPIBLATTICIDA new genus.

Female:—Runs to *Neoblatticida* Girault but differs in not having the club much enlarged, stout and conic-ovate, nearly as long as the funicle; in having the third tooth of mandibles broadly truncate, the scape much less dilated, the funicle joints still longer, the frons moderate, the ovipositor distinctly extruded, the marginal vein shorter, only somewhat longer than the stigmal, very slightly longer than the postmarginal. Cheeks nearly as long as the eyes. Face much inflexed. Hind tibial spur single. Axillæ distinctly separated for some little distance. Habitus of *Anagyrus*. Ring-joint present.

1. EPIBLATTICIDA LAMBI new species. Genotype.

Female:—Length, 1.30 mm., excluding the ovipositor which is black and extruded for a length equal to nearly half that of the abdomen.

Metallic purple, the scutellum dark green, the wings hyaline, the venation black. Legs bright yellowish white except middle and caudal coxæ, caudal femur except at each end and a minute dusky dot on caudal tibiæ dorsad a little below knees. Scape pale at each end. Body polygonally scaly, the vertex thickly pin-punctate, the scutum and scutellum clothed with rather dense, short yellowish pubescence from very minute punctures. Abdomen æneous at base, about as long as the thorax, rather acute, the hypopygium prominent distad. Pronotum transverse. Scutellum triangular, subequal in length to the scutum, the two rather plane. Pedicel a little longer than wide, distinctly longer than any of the funicle joints, the latter all distinctly wider than long, 1 and 2 subequal, distinctly narrower than the others which very slightly widen to apex. Hairless line of fore wing with more than six lines of cilia proximad of it.

From one female taken by sweeping the forest on sand ridges near coast, May 13, 1913 (A. P. Dodd).

Habitat: Chindera (Tweed River), New South Wales.

Type: No. *Hy 3048*, Queensland Museum, Brisbane, the specimen on a tag; head, fore wing and hind legs with slide type of *Dinocarsis fusciventris*.

PARABLATTICIDA new genus.

Female:—Runs to *Epiblatticida* Girault but differs in having the club larger, the scape more dilated, the teeth of the mandibles all rather long and acute, the middle tooth distinctly longest, the ovipositor barely extruded. Club only two thirds the length of the funicle. Abdomen short, triangular, depressed dorsad. Axillæ separated by a short cavina.

1. PARABLATTICIDA PACHYSCAPHA new species. Genotype.

Female:—Length, 1.05 mm.

Velvety black, the legs concolorous except tips of tibiæ, tarsi, middle femora and tibiæ which are reddish yellow; funicle 1 pallid dusky. Fore wings with a lightly infumated stripe across from the marginal vein and accented against that vein, the cross-stripe suffused. Venation dusky black. Stigmal vein nearly as long as the marginal, the postmarginal distinctly shorter than the stigmal. Hairless line of fore wing with eight or more lines of discal cilia proximad of it. Thorax finely scaly, the scales small like those on the wings of butterflies.* Fore wings moderately broad. Scape much dilated, the pedicel a little longer than wide at apex, longer than any funicle joint; joints 1-3 of funicle shortest, subequal in width and shortening distad, 3 twice wider than long; joints 4-6 distinctly larger, 4 about twice the size of 1 but smaller than 6 which is distinctly wider than long. Club obliquely truncate. Cheeks

* But not real scales but their appearance.

nearly as long as the eyes. Frons moderate. Eyes hairy. Caudal wings with about 15 lines of discal cilia. Hind tibial spurs double. Scutum with scattered, minute setigerous punctures. Middle femur suffused with dusky.

From two females captured in jungle, July 30, 1914 (A. P. Dodd).

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 3049*, Queensland Museum, Brisbane, one specimen on a tag; head, pair of wings and hind tibiæ with slide type of *Neanastatus purpureiscutellum* Girault.

A third female same place August 20.

PRIONOMITOIDES new genus.

Female:—Runs in my table to *Prionomitus* but differs in having the head (cephalic aspect) distinctly longer than wide, the scape slender, the stigmal and postmarginal veins rather long and subequal. Mandibles with three acute teeth, of which the middle one is distinctly longer than the other two. Frons moderately broad. Cheeks about half as long as the eyes. Hind tibial spur single, the middle one very large. Axillæ with a carina between them. Valves of ovipositor shortly extruded, the abdomen pointed triangular. Cephalic coxæ compressed, large, the femur obclavate. Pronotum transverse-linear. Scutellum extending to base of abdomen.

1. PRIONOMITOIDES VIRIDISCUTELLUM new species. Genotype.

Female:—Length, 1.10 mm.

Metallic purple, the scutellum metallic green, the wings hyaline, the venation dusky. Knees, tibiæ, distal half of middle femur and tarsi pale golden yellow. Apex of scape pale. Club wider than and half as long as the funicle; joint 1 of the latter, a little shorter than the pedicel, somewhat longer than wide, subequal to 2 and 3, 4 and 5 subequal, a little longer than wide, 6 quadrate. Ring-joint present. Hairless line of fore wing with four lines of discal cilia proximad of it, the fore wings broad. Mandibles with acute teeth, the first and third subequal, small, the middle over twice longer than either. Scutellum longitudinally lined, the scutum polygonally scaly, with slight pubescence. Axillæ polygonally scaly, also the abdomen.

From one female caught in jungle, May 4, 1914 (A. P. Dodd).

Habitat: Tweed Heads (Tweed River), New South Wales.

Type: No. *Hy 3050*, Queensland Museum, Brisbane, the specimen on a tag; head, fore wing, middle and hind tibiæ on a slide.

Genus NEOCLADIA Perkins.

Head transverse, menisciform, inflexed, bearing coarse shallow punctures, the space between the eyes wide, the ocelli in a triangle much widest at base, the posterior ones being rather near to eye margins, only about half as far from these as from the anterior ocellus. Maxillary palpi long, 4-jointed, the first and third subequal, the second much longer than either of these, the fourth curved and very elongate, much longer than second and clothed with long hairs. Mandibles broad and apparently simply pointed in one aspect but in others seem to have three microscopic teeth at apex. Antennæ in front view of head inserted well below the middle; those of the female simple, the scape long and slender, the pedicel rather shorter than the first of the six funicle joints, which when seen at their widest gradually decrease in length and increase in width to the sixth, which is transverse, the club oval, rather longer than the two preceding joints; the scrobes short and rather indefinite. Propodeum widely rounded in front; mesonotum about as long as the axillæ (which meet inwardly) and the scutellum, the latter much deflexed apically. Wings with a pattern in the female (but uniformly clear in the male), stigmal vein long, marginal very short, postmarginal longish in the female and rather longer still in the male. Middle tibiæ armed at the apex with denticles as also are the

inner margins of the tarsi; posterior femora on lower side, posterior tibiæ and basal joint of tarsi on upper side foliaceously dilated, the tibiæ with two distinct spurs. Abdomen small and generally distorted after drying, the ovipositor when exserted short and recurved like that of a *Pipunculus* fly. The male differs chiefly in its clear wings, much less dilated hind legs and the six long branches of the antennæ, which are inserted higher up on the head.

1. NEOCLADIA HOWARDI Perkins

Black with various metallic reflections, the antennæ with the scape ferruginous, the rest more or less obscure, becoming black or dark fuscous towards the tip, as are the branches in the male. Front and middle legs more or less yellowish-brown in the female, the middle tibiæ darker, the base of their tarsi being pale, the tips blackish. Posterior legs dark, apex of femora white. In the male the legs darker but both sexes vary in this respect. Wings in female with apical half fuscous, paler near the tip and containing two white spots, opposite one another, the upper placed just beyond the stigmal vein, while there is a narrow transverse fuscous band before middle of wing and a more or less evident longitudinal one, extending from near base along lower margin of wing. Head dull, green or purplish and with large shallow punctures, the lower parts of the face often more shining, mouth-parts pale. Thorax somewhat shining, distinctly but not brightly metallic, clothed with short black hairs, with indefinite surface sculpture and excessively fine puncturation; scutellum above very dull, densely sculptured the decurved apex smooth and shining. Abdomen black, purplish at base. Length, 2-5 mm.

Habitat: Bundaberg, Queensland. An internal parasite of a common jassid.

Type: Query.

PARACHEILONEURUS new subgenus.

Differs from *Cheiloneurus* in lacking the postmarginal vein. The genotype is *Cheiloneurus perpulcher* Girault.

Genus PSYLLÆPHAGUS Ashmead.

1. PSYLLÆPHAGUS METALLICUS (Girault).

Aratus metallicus Girault.

Female:—Length, 1.20 mm. Small for the tribe.

Metallic green, the abdomen darker, the scutellum more or less coppery, the wings hyaline. Antennæ brown, the scape and pedicel black. Legs black, the knees white (femora and coxæ metallic), the tarsi brownish. Body densely, moderately roughly reticulated, the head and mesonotum with scattered, small, thimble punctures; axillæ a little separated. Mandibles with three teeth about equal; postmarginal vein about four fifths the length of the stigmal, the marginal punctiform. Funicle joints only slightly longer than wide, the distal ones subquadrate, the first smallest, not half the size of the pedicel. Club 3-jointed, two thirds the length of the funicle and wider. Ovipositor prominent, as in *Ablerus*.

Lateral ocelli their own width from the eye margin. Face inflexed. Frons not especially narrow. Scutellum smoother than scutum and head. Type re-examined.

Male:—The same but with metallic bluish on the head and thorax; the antennæ light brown and with whorls of rather long hairs, the funicle joints more or less excised.

Described from six males and three females in the collections of the Queensland Museum at Brisbane, mounted on cards labelled "Bred out of Eucalyptus. 5.8.11, Brisbane. H. Hacker" and "Gall No. 15."

Habitat: Brisbane, Queensland.

Types: No. *Hy 3051,* Queensland Museum, Brisbane, one male one female on a single card.

TABLE TO THE EARTH'S ENCYRTINE GENERA OF ENCYRTIDÆ.*

FEMALES.

Winged.

Antennæ inserted near the middle of the face.

Scape very long; funicle 1 elongate; postmarginal vein much longer than marginal and stigmal, the marginal thick. Club solid. Male antennæ with rami .. .. .. HEXACLADIA Ashmead, HEXENCYRTUS Girault.

Scape normal. Marginal, postmarginal and stigmal veins long, subequal .. .. .. TANEONEURA Howard.

Antennæ inserted distinctly ventrad of middle of face, at the clypeus or nearly.

Antennæ 6-jointed, the funicle 3-jointed.

Marginal vein punctiform, the postmarginal absent, the stigmal very minute .. .. COCCOBIUS Ashmead.

Antennæ 9-jointed.

Funicle 4-jointed; club 3-jointed.

Marginal vein quadrate, the stigmal twice its length. Abdomen compressed, elongate CERCOBELUS Walker.

Marginal vein short but longer than the short stigmal, the postmarginal absent. Vertex flat, the frons prominent.

Scutellum with a sparse tuft of bristles at apex. Abdomen as long as thorax, the ovipositor somewhat extruded .. .. .. HOMALOPODA Howard.

The same (?) but postmarginal vein distinct, short .. PLAGIOMERUS Crawford.

Funicle 6-jointed, the club solid (see *Hexacladia* Ashmead, above).

Caudal tibiæ greatly, foliaceously flattened.

Postmarginal and stigmal veins elongate, the former the longer, the marginal barely longer than wide; scape slender. Male antennæ with branches .. .. .. NEOCLADIA Perkins.

Caudal tibiæ normal.

Scutellum with a tuft of hairs at apex.

Marginal vein long, thrice or more the length of the short stigmal, the postmarginal subobsolete; antennæ cylindrico-clavate, the scape long and slender SARANOTUM Perkins.

Scutellum without an apical tuft of bristles.

Scape foliaceously dilated ventrad.

Marginal vein punctiform, the stigmal long, the postmarginal somewhat over half its length; flagellum greatly flattened, the funicle joints very much wider than long, 6 much wider than 1, the pedicel very small. Frons prominent. Dilation of scape great .. LEUROCERUS Crawford.

Marginal vein nearly twice longer than wide, subequal to the postmarginal, the stigmal a little shorter. Funicle cylindrical, the club barely wider, the joints short .. .. LEUROCEROIDES Girault.

Scape slender or merely compressed or slightly enlarged distad, the flagellum normal.

Head normal, that is, not noticeably longer than wide; face inflexed.

Postmarginal vein subobsolete, the marginal twice longer than wide, the stigmal still longer .. .. ISODROMOIDES Girault.

Postmarginal vein a third longer than the marginal which is nearly twice longer than wide. Stigmal vein slightly longer than the postmarginal .. NEOCOPIDOSOMYIA Girault.

* Based mainly on Ashmead and Mayr. The ring-joint is not counted with one exception.

Head (cephalic aspect) plainly longer than wide.

Face not inflexed, convex, the scrobes very short. Frons narrow; axillæ rather broadly joined at meson; marginal vein twice longer than wide, the postmarginal vein a third longer than it, the stigmal still longer. Genal suture subobsolete .. .. .. COPIDOSOMYIA Girault.

Face inflexed, the scrobes long; axillæ distinctly separated for a short distance; marginal vein punctiform, the postmarginal absent; thorax very convex, globular .. .. .. COPIDOSOMOPSIS Girault.

Antennæ 8-jointed.

Funicle 5-jointed, the club solid. (Compare *Rhopus*, below.)

Marginal vein punctiform, the stigmal twice or more the length of it, the postmarginal absent. Pedicel nearly as large as the club which is over two thirds the length of the funicle; abdomen flat. Axillæ connate. Face inflexed. No ring-joint. Frons moderately broad. Metallic .. .. .. PSYLLEDONTUS Crawford.

Antennæ 10-jointed, the funicle 5-jointed, the club 3-jointed. See *Pteromalencyrtus* below.

Wings developed, the marginal cilia of fore wing rather long.

Body weak, nonmetallic, polished. Marginal and postmarginal veins very short, the stigmal longer. The club "zeigt keine Spur einer Gliederung (selbst bei starker mikroskopischer Vergrösserung)" .. .. RHOPUS Foerster.

The marginal cilia of fore wing short.

Body not especially weak. Postmarginal vein longer than the stigmal, the marginal shortest. Body flat. The frons wide .. .. HOLCOTHORAX Mayr, METALONELLA Girault.

Wings vestigial, the body flat, the frons wide .. .. .. METALLON Walker.

Club 2-jointed, the funicle 6-jointed.

Marginal vein somewhat longer than wide, the stigmal longer than it; antennæ capitate, the club obliquely truncate; mandibles slender, the teeth small. Scape slender. Frons rather broad .. .. ZAOMENCYRTUS Girault.

Antennæ 11-jointed. Winged.

Funicle 7-jointed, the club 2-jointed.

Scape very long, extending far above the clypeus, the following joints also long. Marginal vein scarcely longer than wide .. .. PSEUDENCYRTELLA Girault.

Funicle 5-jointed, the club 3-jointed.

Ring-joint large, distinct, counted here; scape foliaceously dilated; marginal vein subquadrate; mandibles quadridentate .. .. PTEROMALENCYRTUS Girault.

Funicle 6-jointed, the club 3-jointed.

Fore wings without marginal cilia.

Antennæ very long and slender, the flagellar joints very long and slender, funicle 6 shortest but four or more times longer than wide. Scape reaching to the ocelli. Cheeks somewhat longer than the eyes; marginal vein punctiform .. PSILOPHRYS Mayr.

Fore wings with marginal cilia.

Cheeks very short, the eyes occupying nearly the whole side of the head. Frons very narrow.

Flagellum short, clavate, the funicle joints annular, the club very large, longer than the funicle, the pedicel thrice longer than thick at apex; postmarginal vein subobsolete .. .. ARCHINUS Howard.

About the same. Postmarginal and stigmal veins long EURYRHOPALUS Howard.

Cheeks normal, variable, not especially short, the frons variable.

Abdomen globose, much shorter than the thorax, compressed. Frons broad. Postmarginal and stigmal veins long .. .. CHESTOMORPHA Ashmead.

Abdomen depressed, triangular.

Scutellum with one distinct tuft of *hairs* from the surface near apex.

Scutum with a tuft of hairs from the surface near center.

Frons prominent. The vertex flat. Scape broadly dilated ventrad. Marginal vein twice or more longer than wide, subequal to stigmal; antennæ capitate .. .. CHEILONEUROIDES Girault.

Scutum naked.

Frons prominent, the vertex flat!

Antennæ not compressed.

Scape more or less dilated ventrad or toward apex but often cylindrical, sometimes foliaceously dilated; marginal vein twice or more longer than wide, much longer than the stigmal or postmarginal. Funicle joints more or less subquadrate, the club as long or nearly as the funicle, usually varicolored. Frons narrow .. CHEILONEURUS Westwood.

Scape broadly dilated; stigmal and postmarginal veins very long; facial impression carinated .. CHRYSOPLATYCERAS Ashmead.

Frons not prominent. Head longer than wide.

Flagellum compressed.

Stigmal and postmarginal veins short. Marginal vein fully twice longer than wide, twice the length of the stigmal .. .. CHRYSOPOPHAGUS Ashmead.

Funicle cylindrical; head longer than wide.

Face strongly inflexed, ovipositor not extruded.

Club enlarged .. .. ACHRYSOPOPHAGUS Girault.

Club not enlarged, shorter than the funicle .. .. CHRYSOPOPHAGOIDES Girault.

Face not inflexed, the scrobes short. Ovipositor not extruded .. EUSEMIONELLA Girault.

Scutellum armed at apex "mit lamellartigen Schuppen" (lamella-like scales). Axillæ united. "Nacken mit lamellartigen Schuppen" .. .. .. HABROLEPIS Foerster.

Scutellum unarmed at apex.

Scape more or less foliaceously expended ventrad for its entire length, the expansion usually greatly convexed.

Abdomen globose, compressed.

Funicle foliaceously compressed. Pronotum longer than the scutum .. MIRA Schellenberg.

Abdomen normal, triangularly depressed.

Funicle very strongly compressed.

Head oblong, the frons prominent. Marginal vein longer than the stigmal .. CERAPTROCERUS Westwood, EUSEMION Dahlbom.

Funicle not compressed.

Club as long as or longer than the funicle, usually enlarged, always two thirds the length of the funicle.

Head lenticular, the scrobes very short. Marginal vein barely wider than long .. .. ÆNASIUS Walker.

Head not lenticular, the face inflexed.

Marginal vein distinctly longer than the stigmal.

Funicle joints annular. Club as long as rest of the flagellum. Frons moderately narrow. Marginal vein a fourth longer than the stigmal .. .. .. BLATTICIDA Girault.

Funicle joints not annular but wider than long. Club a little shorter than the funicle. Marginal vein four times longer than wide, twice the length of the stigmal. Frons narrow NEBLATTICIDA Girault.

The same but marginal vein not twice the length of the stigmal. Ovipositor extruded; frons moderate; club not very much enlarged. Tooth 3 of mandible truncate .. .. .. EPIBLATTICIDA Girault.

Ovipositor not extruded; club enlarged; tooth 3 of mandible acute .. .. PARABLATTICIDA Girault.

Marginal vein distinctly shorter than the stigmal. Face inflexed. Funicle joints much wider than long but not annular; postmarginal vein longer than the marginal about half the length of stigmal .. .. TYNDARICHUS Howard.

Marginal vein subequal to the stigmal. Frons prominent. Funicle joints annular .. .. HABROLEPOPTERYGIS Girault.

Club distinctly shorter than the funicle and not especially enlarged. Pedicel flattened.

Form elongate. Caudal femora and tibiæ flattened, the spurs of the tibiæ double. Axillæ a little separated. Marginal vein no shorter than the short stigmal. Scape very short .. NEOCLADELLA Girault.

Pedicel normal.

Thorax clothed with a scaly pubescence.

Stigmal vein longer than the marginal .. BLASTOTHRIX Mayr.

Thorax not so clothed.

Head inflexed.

Marginal vein no longer than wide, the stigmal as long as it. Postmarginal vein subobsolete.

Dilation of scape convex .. ECTOPIOGNATHA Perkins.

The same but stigmal vein much longer than the marginal, the postmarginal distinct.

Dilation of scape linear, broadening toward apex. Club truncate at apex .. .. ÆNASIELLA Girault.

Club conic ovate .. .. PARAÆNASOMYIA Girault.

Dilation of scape very convex .. ÆNASOMYIELLA Girault.

Marginal vein plainly longer than wide, the postmarginal distinct, the stigmal longer than it, subequal to the marginal.

Ovipositor not extruded .. .. ENCYRTUS = MICROTERYS; ZOOENCYRTUS Girault.

Ovipositor extruded .. .. RHOPALENCYRTOIDEA Girault.

Head lenticular .. .. .. PARAPHÆNODISCUS Girault.

Scape normal, cylindrical, compressed, obconic or clavate not *foliaceously* dilated.

Antennæ very long and slender, all funicle joints much longer than wide.

Club not enlarged.

Ovipositor much extruded.

Cheeks not quite half the length of the eyes; head longer than wide. Mandibles long, their teeth acute .. ..
PARAPSILOPHYS Howard. Cf. COPIDOSOMA Ratzeburg (below).

Ovipositor not extruded.

Pedicel thrice longer than wide at apex .. LIOTHORAX Mayr.

Club enlarged (*teste* Ashmead).

Frons prominent. Wings with leopard-like spots .. .. ..
CALLIPTEROMA Motschulsky.

Antennæ not especially long, normal.

Marginal vein punctiform or very little longer than wide.

Head convex-lens-shaped, the scrobes short. Usually coarsely punctate.

Frons broad.

Scutum only half the length of the scutellum; club as long as the funicle; postmarginal vein as long as the stigmal; coarsely punctate .. ..CHALCASPIS Howard.

Scutum as long as or longer than the scutellum; club shorter than the funicle; postmarginal vein usually much shorter than the stigmal. Coarsely punctate .. ..
BOTHRIOTHORAX Ratzeburg, ARATUS Howard, HEMÆNASIUS Ashmead.

The same; postmarginal and stigmal veins short, subequal ..
PENTELICUS Howard.

The same; club longer than rest of flagellum, very large; postmarginal and stigmal veins very long, unequal .. ..
BLEPYRUS Howard.

Frons moderate .. .. HEMÆNASIUS Ashmead.

Head not lenticular, the scrobes long, the face inflexed.

Postmarginal vein absent or very short, much shorter than the stigmal. Frons not prominent. Stigmal vein normal.

Metallic.

Club as long as or longer than the funicle. Postmarginal vein present.

Funicle joints short, distad wider than long; frons of moderate width. Pedicel barely longer than wide .. .. ..
COCCIDENCYRTUS Ashmead.
Compare PARACÆNOCERCUS Girault.

Club distinctly shorter than the funicle, the pedicel longer than wide.

Head (cephalic aspect) distinctly longer than wide.

Abdomen long, compressed, the ovipositor extruded.

Funicle long .. .. .. COPIDOSOMA Ratzeburg.

Abdomen rotund-oval, the ovipositor long, slender .. ..
CÆNOCERCUS Thomson.

Abdomen normal, the ovipositor not extruded.

Frons rather narrow; club much enlarged, obliquely truncate .. (*teste* Ashmead). LITOMASTIX Thomson.

Frons broad .. .. .. BERECYNTUS Howard.

Head (cephalic aspect) no longer than wide.

Axillæ connate or barely separated.

Stigmal vein long and curved.

Club large, obliquely truncate .. ISODROMUS Howard.

Stigmal vein not especially long.

Pedicel longer than funicle 1; frons rather narrow .. OOENCYRTUS Ashmead, PSYLLÆPHAGUS Ashmead.

Frons rather broad .. .. CHALCERINYS Perkins.

Axillæ distinctly separated.

Hind tibiæ with one spur.

Mandibles short; frons rather narrow. Funicle joints longer than wide .. .. .. SCHEDIUS Howard.

Hind tibial spurs double.

Frons broad; funicle joints wider than long, enlarging distad .. .. .. ZARHOPALOIDES Girault.

Nonmetallic.

Postmarginal vein present.

Scape normal.

Funicle joints all short, wider than long or not much longer than wide .. .. APHYCUS Mayr.

Funicle 1 much longer than the pedicel, cylindrical, the others gradually shortening .. .. HETERARTHRELLUS Howard.

Scape short, obconic .. .. PARAPHYCUS Girault.

Postmarginal vein as long as or longer than the stigmal.

Frons prominent.

Stigmal vein as long as the postmarginal. Antennæ short, the scape somewhat broadly dilated toward apex, the flagellum strongly incrassated, the joints of the funicle annular; club as long as the funicle .. .. .. (*teste* Ashmead). ZARHOPALUS Ashmead.

The same but funicle joints not annular. Ovipositor extruded .. .. .. NEZARHOPALUS Girault.

Stigmal vein shorter than the postmarginal. Antennæ normal. Ovipositor strongly extruded .. .. .. COCCIDOCTONUS Crawford.

Frons not prominent.

Head normal .. .. .. (Male) PRIONOMITUS Mayr.

Postmarginal vein only somewhat shorter than the stigmal. Ovipositor usually strongly extruded. Funicle joints longer than wide .. .. (*partim*) CERCHYSIUS Westwood.

Head longer than wide .. .. PRIONOMITOIDES Girault.

Marginal vein not punctiform, plainly longer than wide.

Metallic.

Club usually very large, as long as or longer than the funicle; always subequal to the funicle.

Eyes large, rounded, strongly convergent above, the frons linear, very narrow.

Antennæ very short; club enormous; funicle joints transverse; face inflexed .. .. ZAOMMA Ashmead.

Eyes normal, the vertex not linear.

Head convex-lens-shaped, the scrobes short.

Funicle joints wider than long; abdomen short; marginal vein about twice longer than thick. Mandibles with small subequal teeth .. COCCOPHOCTONUS Ashmead.

Head not lenticular.

Stigmal vein shorter than the marginal.

Frons not prominent.

Postmarginal vein shorter than the stigmal; club as long as the funicle, the joints of the latter short. Abdomen ovate.

Mandibles 3-dentate .. EPIENCYRTUS Ashmead.
ECHTHROGONATOPUS Perkins.

Mandibles 4-dentate .. EPIENCYRTOIDES Girault.

Frons prominent.

Stigmal and postmarginal veins short. Club longer than the funicle .. ..
ANICETUS Howard, ? ADELENCYRTUS Ashmead.

Stigmal vein as long as or longer than the marginal.

Marginal and postmarginal veins subequal; funicle not longer than the first joint of the club. Frons prominent .. .. ASTEROPÆUS Howard.

Marginal vein longer than the postmarginal; funicle subequal to the club. Joints of funicle enlarging distad .. .. .. NEASTEROPÆUS Girault.

Club of normal size.

Flagellum long, the funicle joints all longer than thick.

Head lenticular.

Marginal vein about twice longer than wide, not as long as the stigmal, the latter shorter than the long postmarginal; two lateral teeth of mandibles more acute and longer than the third tooth .. .. HEMENCYRTUS Ashmead.

Head not lenticular.

Stigmal vein much longer than the marginal or postmarginal veins.

Axillæ separated .. .. PSEUDENCYRTUS Ashmead.

Stigmal vein shorter than the postmarginal. Mandibles long, with acute teeth. Pedicel about thrice as long as thick
PARENCYRTUS Ashmead.

Stigmal vein a little longer than the postmarginal. Mandibles short. Head longer than wide .. .. .. PARENCYRTOMYIA Girault.

Flagellum shorter, the funicle joints not all longer than wide.

Head lenticular.

Pedicel elongate.

Marginal vein longer than the stigmal .. .. .. RHYTIDITHORAX Ashmead.

Pedicel not especially long.

Marginal and stigmal veins subequal. Funicle usually ringed with white .. .. PHÆNODISCUS Foerster.

Marginal vein somewhat longer than the stigmal which is subequal to the postmarginal. Funicle joints longer than wide .. .. .. PHÆNODISCOIDES Girault.

Head not lenticular.

Ovipositor distinctly extruded (except *Cerchysius australiensis*).

Axillæ connate or a little separated.

Ovipositor valves compressed, broad; abdomen rather long, conic-ovate; stigmal vein longer than the marginal .. .. .. CERCHYSIUS Westwood.

Ovipositor not extruded.

Postmarginal vein distinctly much longer than the marginal (*teste* Ashmead). HOMALOTYLUS Mayr.

? Marginal vein punctiform; head lenticular.

Scutellum with a delicate grooved line at proximal half* HOLCENCYRTUS Ashmead.

Without status? AGENIASPIS Dahlbom.

Postmarginal vein not much longer than the marginal, sometimes much shorter.

Mandibles elongate. Frons broad. Hind tibiæ with two spurs. Scape more or less compressed .. .. CERCHYSIELLA Girault.

Mandibles normal.

Marginal vein subequal to the stigmal.

Postmarginal vein absent ACHALCERINYS Girault.

Postmarginal vein evident, much shorter than the marginal. Hind tibial spurs single. Club wider than the funicle. Funicle joints longer than wide HELEGONATOPUS Perkins.

Hind tibial spurs double. Club no wider than the funicle. Funicle joints barely longer than wide .. .. ECHTHROBACCELLA Girault.

Postmarginal vein as long as the stigmal. Club about half the length of the funicle .. .. PARASYRPOPHAGUS Girault.

* Is this the carina between the axillæ?

Marginal vein distinctly longer than the stigmal.

Frons not prominent.

Postmarginal vein a little longer than the marginal. Stigmal vein very short. Axillæ a little separated .. APHIDENCYRTUS Ashmead.

Postmarginal vein shorter than the stigmal. Funicle joints much longer than wide. Scape short .. .. SYRPOPHAGUS Ashmead.

Stigmal vein distinctly longer than the postmarginal. Marginal vein very much longer than the postmarginal.

Frons rather broad. Funicle joints barely wider than long. Inner tooth of mandible broadly truncate. Marginal vein over twice the length of the stigmal .. .. ECHTHROBACCA Perkins.

Frons prominent .. .. ATROPATES Howard.

Nonmetallic.

Postmarginal vein absent.

Funicle joints increasing in length distad, wider than long. Frons not prominent .. .. ASTYMACHUS Howard.

Postmarginal vein distinct.

Funicle joints all longer than wide. Frons moderately broad. Hind tibial spurs double .. ..NEASTYMACHUS Girault.

TRIBE EUCOMINI.

GENUS EUCOMYS Foerster.

This genus resembles closely *Eusemion* in nearly everything except venation and the mandibles.

1. EUCOMYS HIBISCI new species.

Female:—Length, 1.33 mm.

Deep orange yellow, the abdomen dark metallic purple; legs and scape paler yellow; rest of antenna concolorous or nearly. Pronotum and vertex washed with purple. Fore wing embrowned to apex from a little out from base but clear disto-caudad, in a transverse, slit-like spot just distad of postmarginal vein, in a distinct not very narrow transverse band from the distal fourth or less of submarginal vein and along the caudal margin proximad of this cross-band. A clump of coarse black setæ at the proximal margin of the cross-band of fore wing, cephalic half, followed proximad by over a half dozen lines of normal discal cilia. Postmarginal and stigmal veins rather long, subequal, the stigmal curved, the marginal distinctly shorter, about twice longer than wide, not half the length of the stigmal vein. Oblique hairless line obscure, of necessity short because of the hyaline, naked cross-band. Head lenticular, the scrobes short, the surface finely transversely sheened, the frons and vertex with thimble punctures; lateral ocellus over their own diameter from the eyes. Scutum very finely longitudinally lined, hispid. Axillæ meeting. Apical tuft of hairs on scutellum black. Hind legs more or less black. Flagellum clavate, compressed distad, the club short, truncate; scape slender, purple at tip above; pedicel rather long, a little longer than funicle 1, which is subequal

to 2 and longest; 1 or 2 about one and a half times longer than wide, 3 a little longer than wide, 4 a little wider than long, 6 distinctly wider than long. Frons broad; cheeks as long as the eyes. Flagellum hispid. Metapleurum not noticeably pubescent. Hind tibial spurs distinctly unequal but distinct; hind tarsi white, proximal portion of first tarsal joint of hind legs purple. Ring-joint absent.

From two females captured while crawling over the stems of an Hibiscus in a garden. October 30, 1911.

Habitat: Mossman, Queensland.

Types: No. *Hy 3052*, Queensland Museum, Brisbane, two females on a tag; head, a fore wing and a hind tibia on a slide.

The Hibiscus plant mentioned was badly infested with a lecaniid and ants were also constantly running to and fro in large numbers. The encyrtid resembled the latter somewhat, walking very rapidly and unevenly and jumping strongly when disturbed.

Another female of this species was taken by miscellaneous sweeping (including Hibiscus and other ornamentals in neglected gardens) along the Herbert River at Halifax, February 26, 1913. In this specimen, the hind legs were coloured like the others.

2. EUCOMYS ARGENTICOXA new species.

Female:—Length, 1.80 mm. Robust.

Like the preceding but the antennæ are black, the scape silvery white, black along dorsal edge; pronotum metallic purple except laterad; scutum metallic purple at distal half, the purple advanced a little at meson and with dense whitish pubescence; thorax on each side of scutellum (dorsal aspect), purple. Middle coxæ purple, the others silvery; tarsi, knees and most of middle tibiæ pale, other tibiæ purple, other femora white, purple along dorsal edge. Disk of occiput purple. Cheeks with conspicuous long bristles along ventral half (present in *hibisci*). Lateral ocelli distinctly separated from the eyes. Antennal segmentation differs in that the joints are all a little longer, funicle 1 being subequal to the pedicel; the pedicel is subcompressed in both species. Mandibles shorter. Antennæ inserted on a level with the ventral ends of the eyes in both species. The fore wings differ, being blackish rather than brownish. Propodeum shagreened, purple at the spiracle. Rest of thorax finely longitudinally lined. Hind tibial spurs and hind tarsi the same.

From one female caught in jungle, March 1, 1914.

Habitat: Gordonvale (type) and Ingham, Queensland.

Type: No. *Hy 3053*, Queensland Museum, Brisbane, the specimen on a tag; head, fore wings and a hind tibia on a slide.

Also one female, Ingham, March 30, 1914 (A. P. Dodd).

3. EUCOMYS AURANTIFASCIATA new species.

Female:—Length, 1.65 mm.

Similar to *argenticoxa* but the cephalic margin of scutum is purple followed by a rather narrow transverse stripe of orange yellow, the rest purple, the cross-stripe of orange straight and thus the caudal purple on scutum has a straight cephalic margin. Also, the propodeum is wholly purple. Otherwise very similar. Cephalic margin of scutum narrowly black and also of the scutellum. Cephalic femur purple dorsad only at distal third (about distal half in *argenticoxa*).

From one female caught on a window, January 11, 1912.

Habitat: Innisfail, Northern Queensland.

Type: No. *Hy 3054*, Queensland Museum, Brisbane, the specimen on a tag.

4. EUCOMYS ARGENTISCAPUS new species.

Female:—Length, 1.80 mm.

Similar to *aurantifasciata* but differs in that the caudal margin of scutum is narrowly orange yellow and the narrow stripe across cephalic scutum is a little narrower. Also the axillæ are purple except laterad and the immediate base of scutellum at meson. First and last pairs of coxæ, cephalic femora except along dorsal and ventral edges rather broadly and distal three fourths of lateral aspects of middle femora, silvery white; also a spot ventrad at tip of caudal femur; rest of legs purple except tips of middle tibiæ and middle tarsi which are reddish brown and other tarsi which are silvery white (joints 2-4). Occiput with a central purple V and a purple semicircle ventrad of it. Caudal edges of cheeks from mouth, purple. Head with scattered punctures. Antennæ differ from those of *argenticoxa* in that the pedicel is distinctly not twice longer than broad at apex; the caudal tarsus in that the distal joint is purple not white; and the fore wing not greatly.

From one female caught June 3, 1914, in jungle (A. P. Dodd).

Habitat: Grafton, New South Wales.

Type: No. *Hy 3055*, Queensland Museum, Brisbane, the female on a tag with tag type of *aurantifasciata*; head, a fore wing and a hind tarsus with slide type of *Encyrtus spinozai* Girault.

5. EUCOMYS PROSERPINENSIS new species.

Female:—Length, 1.75 mm.

Similar to *argenticoxa* Girault but the pronotum is orange except narrowly along caudal margins and the scutum bears a conico-triangular purple marking from cephalic margin to apex, at base this marking as wide as the scutum but narrowing to a point at apex. The propodeum is washed with purple and also the distal part of the mesopleurum. Cephalic legs mostly all pale. Otherwise the same or nearly, but the pedicel is purple only at proximal three fourths dorsad, the scape pale yellow except above at immediate tip and the setæ on the ventral cheeks much shorter and less conspicuous. The fore wings are brown not black.

From two females caught by sweeping in forest near a cultivated area, November 3, 1912.

Habitat: Proserpine, Queensland.

Types: No. *Hy 3056*, Queensland Museum, Brisbane, the two specimens on a tag; head, a fore wing, hind and cephalic tibia on slide with type *Encyrtus newcombi.*

6. EUCOMYS HORTENSIS new species.

Female:—Length, 1.55 mm.

Orange yellow, the following parts metallic purple: Occiput, frons, clypeus, cheeks beneath the eyes, last two (from mesal aspect) funicle joints and the club; a large peltate area center of scutum from cephalic margin nearly to apex (whose lateral margins are ❮-shaped and whose caudal margins oblique to meson) and a little longer than wide, widest at cephalic margin of scutum, next so just before the markings caudal end; caudal margin of each axilla centrally, base of scutellum between the axillæ, abdomen, propodeum; middle legs dorsad on each side of knee, middle coxæ, hind femora dorsad, hind tibiæ except ventrad, mesopleurum except cephalic end, thoracic venter mostly, hind knees and hind tarsi at immediate base. The following parts silvery white—first and last pairs of coxæ, cephalic femora except above at tip, all of middle femora except at each end, caudal tarsi. Differs from *proserpinensis* notably in the different shape of the marking on the scutum which in that species is conical with regularly curved lateral margins and extending the whole length of the scutum. Both species

bear numerous pin-punctures on the frons, the caudal margin of pronotum is very narrowly purplish and the axillæ are slightly separated, fringed with lashes along caudal margin. Funicle 1 barely shorter than the pedicel. Infuscation of wings dark. Head lenticular. Scape above at tip and the pedicel purple.

From one female caught in a garden, August 1, 1914 (A. P. Dodd).

Habitat: Harvey's Creek (Cairns), Queensland.

Type: No. *Hy 3057,* Queensland Museum, Brisbane, the specimen on a tag.

ENCYRTOMYIA new genus.

Female:—Resembles *Omphalencyrtus* of the Ectromini. Form small, rather slender, the head (cephalic aspect) rounded, the frons moderately broad, the antennæ inserted distinctly below the middle, 10-jointed, the club 3-jointed, large and ovate, the divisions faint, the region longer than the funicle whose joints, except the first, are transverse; one short ring-joint. Pedicel normal, but much longer than any of the funicle joints. Scape moderately dilated, rather short. Scutellum simple; axillæ meeting or nearly, transverse-cuneate. Middle tibial spur slender, long. Hind tibial spurs single, small. Abdomen as long as the thorax, the ovipositor short, inserted at distal third, not exserted. Metapleurum bare. Legs slender. Marginal vein short, twice longer than wide, the stigmal somewhat shorter, the postmarginal half the length of the marginal. Oblique hairless line narrow. Mandibles truncate. Cheeks somewhat shorter than the eyes. Wings with short marginal fringes.

1. ENCYRTOMYIA ALBIFLAGELLUM new species. Genotype.

Female:—Length, 0.50 mm.

Dark metallic green, the wings hyaline. Funicle, club, knees, tibiæ (except proximal half of cephalic tibia and middle tibiæ at base) and tarsi pure white, rest of legs and antennæ concolorous; tip of pedicel and scape pale. Scutum scaly but with scattered minute setigerous punctures; scutellum apparently very finely longitudinally lineolated. Head very finely sculptured. Funicle 4 wider than long, twice the length of 3 which is subequal to 2, 1 a little longer than wide, shorter than the pedicel, the ring-joint very minute. Discal ciliation proximad of hairless line sparse (four short lines) and coarser than the main ciliation; hind wings densely ciliate discally.

From one female taken in jungle, June 7, 1914.

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 3058,* Queensland Museum, Brisbane, the specimen on a slide.

2. ENCYRTOMYIA SECUNDUS new species.

Female:—Length, 0.75 mm.

Differs from *Omphalencyrtus wallacei* Girault in being black, or nearly and the intermediate femora are concolorous centrally, the cephalic legs like the hind legs. Also the antenna differs in that funicle 1 is subquadrate and the following joints all transverse and subequal, ring-like. The scape is metallic except at tip, the pedicel wholly metallic; rest of antennæ white. Mandibles truncate, unarmed. Oblique hairless line present.

From three females caught sweeping miscellaneous trees (some ornamental, some jungle) along a tramway and along the banks of the Herbert River, February 26, 1913.

Habitat: Halifax (Ingham), Queensland.

Types: No. *Hy 3059,* Queensland Museum, Brisbane, two specimens on a tag, one in fragments on a slide.

3. ENCYRTOMYIA ALBITARSUS new species.

Female:—Length, 0.75 mm.

Dark metallic green, the wings hyaline; funicle and club yellowish white; tarsi, tips of first two pairs of femora, knees, cephalic tibiæ except centrally, middle tibiæ except a rather wide band some distance below knee (midway between knees and the middle point of those tibiæ) and hind tibiæ, white. Scutellum longitudinally, finely lined; scutum densely scaly. About four rows of coarser cilia proximad of the oblique hairless line. Funicle joints all much wider than long, much shorter than the pedicel, widening distad but the first funicle joint is a little longer than wide; a minute ring-joint present. Agreeing with the description of *Omphalencyrtus*. Scape distinctly dilated for its entire length, the mandibles truncate. Frons a little narrowed (over six times the diameter of an ocellus). Stigmal vein very short, the postmarginal subobsolete.

From one female caught July 14, 1912, on forest-downs.

Habitat: Hughenden, Queensland.

Type: No. *Hy 3060*, Queensland Museum, Brisbane, the specimen on a tag.

Very similar indeed to *albiflagellum* but the pedicel is paler and the frons distinctly narrower.

4. ENCYRTOMYIA AUSTRALIS new species.

Female:—Length, 1.05 mm.

Dark metallic green and scaly, the wings hyaline, and with an oblique hairless line. Agreeing with *Plagiomerus diaspidis* Crawford but the pedicel at proximal half dusky, the first funicle joint is longer than wide, the second transverse, shortest, the third a little longer than it while the fourth is the next longest of the four yet wider than long; pedicel over half the length of the funicle; the three club joints subequal in length. Marginal vein rather thick, longer than wide. Mandibles short, truncate, one edentate, the other with a small outer tooth, the inner broadly truncate. Antennæ 10-jointed. Club long.

From one female captured by sweeping the foliage of lantana, October 20, 1911. The mandibles in this species are anomalous.

Habitat: Mackay, Queensland.

Type: No. *Hy 3061*, Queensland Museum, Brisbane, the head of above specimen on a slide with *Sympiesomorphelleus suttneri* Girault.

5. ENCYRTOMYIA VIRIDISCUTELLUM new species.

Length, 0.98 mm.

Very dark metallic blue-black, the scutellum contrasting, rather bright metallic green; knees, tips of tibiæ (all of intermediate tibiæ except below knee) and tarsi straw yellow, also the funicle and club; the scape and pedicel black, the former white at distal third, the latter around apex. Antennæ with a very thin ring-joint. Teeth of mandibles not developed; scape slender, the pedicel elongate and slender. Thorax with a dense, minute scaly sculpture. Funicle as figured for the genotype of *Psylledontus*, the club appearing solid.

Habitat: Gordonvale (Cairns), Queensland. Jungle, November 1, 1913.

Type: No. *Hy 3062*, Queensland Museum, Brisbane, a female on a tag, the head on a slide. A second female caught by sweeping mangroves, bank of Tweed River, Chindera, New South Wales, May 14, 1914 (A. P. Dodd).

Tribe ECTROMINI.

The table of genera given at the end of this tribe has been followed. It was compiled from original sources as much as possible, mainly from Foerster, Mayr and Ashmead. The latter in his table of genera, makes the principal division on too variable a character—the

carina between the antennæ—and I have also ignored such of his characters as pubescent eyes, wing pattern and sculpture. For remarks on the validity of the tribe see elsewhere. The width of the frons seems variable but for the present I have used it for a generic character. The position of the ocelli is not considered stable enough to be of use.

Genus ANAGYRUS Howard.

1. ANAGYRUS PURPUREUS new species.

Female:—Length, 1.60 mm., excluding ovipositor. Metallic purple, the abdomen green, the legs brownish yellow, the coxæ concolorous; wings hyaline. Scape and pedicel concolorous, the first three funicle joints dusky, the rest yellowish except the distal two club joints which are dusky. Head and thorax with a dense scaly sculpture, the axillæ finer, the scutellum longitudinally lined. Abdomen densely finely scaly. Valves of ovipositor black, distinctly but shortly exserted (for about a fifth the length of the abdomen). Lateral ocelli not especially near the eyes, the marginal vein punctiform, the moderately long stigmal a half longer than the postmarginal. Funicle joints more or less subquadrate, the first shorter than the next two which are longest, a little longer than wide, the sixth or distal joint wider than long. Body flattened. Oblique hairless line on fore wing rather obscure, very narrow. Club rather large. Segments of abdomen more or less equal. Second tooth of mandible broadly truncate. Scape broadly dilated. Frons moderately narrow.

Described from one female captured by sweeping miscellaneous vegetation, November 1, 1912.

Habitat: Bowen, Queensland.

Type: No. *Hy 3063*, Queensland Museum, Brisbane, the specimen on a tag, the head and a hind leg on a slide.

2. ANAGYRUS MAZZININI new species.

Female:—Length, 3.25 mm., excluding ovipositor which is extruded for one third the length of abdomen.

Similar to *Coccidoxenus worcesteri* Girault with which I have compared it but very much more robust, the ovipositor is distinctly extruded, the scape distinctly dilated, with a foliaceous expansion ventrad which, however, is not great but distinct and prominent; funicle 2 barely shorter than the pedicel and distinctly longer than wide, 1 and 3 each only a little shorter than it, funicle 6 a little wider than long. Club fuscous. The fine down on the scutum is a little denser in this species, not conspicuous in either. Eyes convergent above in both species, the frons narrow in this species, moderately broad in *worcesteri*.

Described from one female caught in forest, December 24, 1912.

Habitat: Capeville (Pentland), Queensland.

Type: No. *Hy 3064*, Queensland Museum, Brisbane, the female on a tag with type of *C. worcesteri*; the head on a slide with head of *worcesteri*.

3. ANAGYRUS AURICORPUS new species.

Female:—Length, 1.20 mm. Short, stout, depressed, broad.

Pale golden yellow, the eyes pale green, the wings hyaline. Frons densely scaly punctate, also the scutum and scutellum, the axillæ and the wide, linear pronotum scaly. Axillæ apparently joined by a piece between them, the mesal ends separated by this piece. Scutellum large, flat. Scape dilated distinctly but not greatly. Club two thirds the length of the funicle, short, stout; funicle joints wider than long, widening distad, 1 smallest, all a little shorter than the short pedicel. Second tooth of mandible broadly truncate. Cheeks about as long as the eyes; frons rather broad, face inflexed. Marginal vein triangular, the stigmal

rather long, a third longer than the postmarginal. Hairless line with 5-6 lines of cilia proximad of it, the first ones long. Second spur of hind tibiæ very short. Lateral ocelli their own diameter from the eye.

From one female taken April 13, 1914 (A. P. Dodd). Forest.

Habitat: Cloncurry, Queensland.

Type: No. *Hy 3065*, Queensland Museum, Brisbane, the female on a tag; head, fore wing and hind leg on a slide.

4. ANAGYRUS HOWARDII new species.

Female:—Length, 2.10 mm.

Similar to *mazzinini* but the ovipositor not at all extruded, the fore wings are slightly stained along and under the submarginal vein, the scape is foliaceously dilated somewhat wider than in the named species, the scutum is more distinctly punctate. The funicle and club are brown in both species. In this new species, the frons is a little wider than with *mazzinini*. Scape metallic. Both species bear a dull golden yellow lunula before the tegula (lateral aspect). The legs are dull golden yellow in both, the caudal two pairs of coxæ metallic. Postmarginal vein three fourths the length of the stigmal. Caudal tibial spurs single, long and stout. Compared with type of *mazzinini*.

From one female caught April 16, 1914, sweeping forest (A. P. Dodd).

Habitat: Cloncurry, Queensland.

Type: No. *Hy 3066*, Queensland Museum, Brisbane, the female on a tag.

Dedicated to Leland Ossian Howard.

5. ANAGYRUS CELLININI new species.

Female:—Length, 2.60 mm.

Metallic green, the abdomen dark purple, the fore wings sooty dusky at distal fourth, the legs yellowish brown except the concolorous caudal coxæ. Is similar to *howardii* but the whole antenna is black except the white tip of scape, the different staining of the fore wing, the longer funicle joints (1-3 being subequal, long, over twice longer than wide, distinctly longer than the pedicel; funicle 6 somewhat longer than wide); caudal tibial spurs not seen; the abdomen not green at base; the axillæ are not separated so widely as in *howardii*. Funicle 6 subequal to the pedicel. Lateral apex of the truncate second tooth of mandible acute. Compared with type body of *howardii*. Frons moderate.

From one female taken May 2, 1914, sweeping jungle (A. P. Dodd).

Habitat: Tweed Heads (Tweed River), New South Wales.

Type: No. *Hy 3067*, Queensland Museum, Brisbane, the specimen on a tag; head and a fore wing on a slide.

Dedicated to Benvenuto Cellini.

6. ANAGYRUS GUTTATIPES new species.

Female:—Length, 1.20 mm.

Dark rosaceous green, the abdomen honey yellow, slightly embrowned across base, the tegulæ, legs, distal end of both scape and pedicel and funicle 6, pure white. Each cephalic and caudal femur with a narrow encircling band of blackish a short distance proximad of knees (an encircling band on caudal femur, a spot dorsad on cephalic femur); each tibia with two black dorsal spots, one just before tip, one just distad of knee. Scape and club black; first five funicle joints dusky. Fore wings lightly dusky and with four obscure radiating hyaline rays, of which the cephalic two form a curved, transverse hyaline marking from apex of postmarginal vein, all central and a little distad of venation. Scape distinctly compressed for its entire length. Pedicel slightly shorter than funicle 1 which is one and two thirds times longer than wide and subequal to 2 and 3; funicle 6 a little longer than wide; club somewhat wider, somewhat over half the length of the funicle, not quite as long as the scape.

The broad, second tooth of mandibles with a concave apical margin. Hind tibial spur single. Face inflexed, the frons narrow, somewhat over thrice the diameter of the cephalic ocellus. Hairless line complete, with a dozen or more lines of discal cilia proximad of it. Venation pale yellow, the marginal vein punctiform, the postmarginal about half the length of the slender stigmal. Fore wing broadly pyriform, densely ciliate. Head, scutum and scutellum densely shagreened, the scutum with an obscure median impression. Axillæ steel blue, smoother, acute mesad and there broadly separated. Scutum broad, scutellum large, peltate. Pubescence distinct but not conspicuous. Abdomen conic-ovate, no longer than the thorax. Scape compressed distinctly, not dilated so much as usual.

From one female caught in forest, January 4, 1914 (A. P. Dodd).

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 3068*, Queensland Museum, Brisbane, the specimen on a tag; hind legs, fore wing and head on a slide.

7. ANAGYRUS GROTII new species.

Female:—Length, 1.35 mm. Scape as in *guttatipes.*

Æneous green, the wings hyaline, the abdomen purplish black, the funicle, club and legs light pale lemon yellow, the coxæ metallic green, the hind femora with a purplish black stripe around them at proximal third. Tegulæ yellowish at base. Mandibles with the second tooth broadly truncate. Postmarginal vein two thirds the length of the stigmal, longer than the marginal which is somewhat longer than wide. Thorax densely scaly, the axillæ transversely lineolated, distinctly separated at meson though not for a great distance. Scape a little dilated ventrad, whitish at tip; pedicel whitish at tip. Ovipositor not exserted. Abdomen reticulated. Funicle joints all somewhat shorter than the pedicel, 2-4 longest, a little longer than wide, 1-2 subquadrate, 5 and 6 wider than long, wider than the preceding.

From one female caught in forest, November 30, 1913.

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 3069*, Queensland Museum, Brisbane, the specimen on a tag, head and a fore wing on a slide.

Later, a female same place caught November 5, 1913.

Dedicated to Hugo Grotius.

8. ANAGYRUS ALBICLAVA new species.

Female:—Length, 1.60 mm.

Metallic grass green, the abdomen dark purple, the coxæ concolorous, the legs pale yellow except hind femur and a spot dorsad on hind tibia just below the knees. Wings hyaline, the marginal vein punctiform, the postmarginal vein not quite half the length of the stigmal which is long and clavate. Antennæ concolorous, the club yellowish white; scape greatly dilated ventrad, pedicel somewhat longer than funicle 1 which is subequal to 2, 3 and 4, all of which are somewhat longer than wide; funicle 5 and 6 subquadrate; club ovate, not long. Second tooth of mandible broadly truncate. Frons moderately broad. Head and thorax very densely scaly punctulate, the frons with scattered obscure punctures, the scutum also. Axillæ finely delicately scaly, separated by a short carina. Abdomen densely scaly, the ovipositor just tipping it. Hind tibial spur single. Closely allied with *purpureus* but the antennæ are differently colored, the frons a little wider, the hind legs half metallic and the funicle joints all longer, 1 not shortest, subquadrate as in *purpureus.* Also, the ovipositor is not distinctly but shortly exserted and the axillæ are not a little separated. Also the thorax is convex and the general coloration quite different. Scape broadly dilated in *purpureus.*

From one female caught by sweeping forest on Mount Pyramid (3,000 feet) August 17, 1912.

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 3070*, Queensland Museum, Brisbane, the female on a tag; head, fore wing and a hind tibia on a slide.

9. ANAGYRUS NOVIPURPUREUS new species.

Female:—Exactly similar to *purpureus* with which I have compared it (types) but the funicle and club all white except the dusky funicle 1 and the axillæ are distinctly joined and with a short carina between them. Also funicle 2 is slightly wider than long not slightly longer than wide. Hind tibial spur single. The extruded portion of the ovipositor is somewhat shorter than with *purpureus*.

From one female taken by sweeping forest, January 8, 1913.

Habitat: Capeville (Pentland), Queensland.

Type: No. *Hy 3071*, Queensland Museum, Brisbane, the specimen on a tag; the head, a fore wing and a hind tibia on a slide.

10. ANAGYRUS HEGELI new species.

Female:—Length, 0.90 mm. Ovipositor not exserted. Scape but slightly dilated.

Color pattern similar to *albiclava* but the fore wings have a distinct, oblique, dusky stripe across from the stigmal, marginal and distal part of submarginal veins and the funicle and club are yellowish white. More closely allied with *spongitus* which it resembles very much differing only in that the fore wing bears the dusky stripe. Otherwise as in *spongitus* with which I have compared it (types). Face much inflexed. Frons moderately broad. Hind tibial spur single. Thorax polygonally scaly.

From one female caught in forest, May 2, 1914 (A. P. Dodd).

Habitat: Tweed Heads (Tweed River), New South Wales.

Type: No. *Hy 3072*, Queensland Museum, Brisbane, the specimen on a tag; head, fore wing and hind tibiæ with slide type of *Ceraptrocerus emersoni* Girault.

Dedicated to G. W. F. Hegel.

11. ANAGYRUS SEMIFULVUS new species.

Female:—Length, 1 mm. Scape only slightly dilated, appearing merely compressed. Marginal vein somewhat longer than wide.

Yellowish brown, the wings hyaline; the knees (except those of middle legs), tips of tibiæ and the tarsi white, the dorsal thorax dark metallic green. Middle of middle tibiæ white and also on these a white ring a short distance out from knee (thus middle tibiæ white with two rather broad yellow-brown encircling bands and a narrower one at base). Axillæ slightly separated. Vertex blackish. Scutum and scutellum very finely densely scaly and with a short silvery pubescence. Pedicel somewhat longer than any of the funicle joints, the first of the latter rather abruptly shorter than the following, distinctly wider than long, joints 2-6 subequal, a little wider than long, a half longer than 1. Face much inflexed, the frons sloping, moderately narrow. Postmarginal vein barely shorter than the stigmal which is distinctly longer than the marginal. Cheeks nearly as long as the eyes. Hind knees broadly white.

From one female caught by sweeping foliage of lantana in fields near town, October 20, 1911.

Habitat: Mackay, Queensland.

Type: No. *Hy 3073*, Queensland Museum, Brisbane, the specimen on a tag; head, hind tibiæ and a fore wing on a slide.

12. ANAGYRUS SPONGITUS new species.

Female:—Length, 0.80 mm. Ovipositor not extruded.

With the general color pattern of *albiclava* but differing from that species in being much less robust and more depressed, the axillæ usual (that is, a little separated), the general coloration a little brighter, the distal five antennal joints are yellowish white and apex of scape and pedicel, the scape is only moderately dilated, the funicle joints all somewhat wider than long and gently widening distad, all shorter than the pedicel. Funicles 1-4 slightly dusky. Otherwise the same as *albiclava*.

From one female specimen caught in a mangrove swamp, May 14, 1914 (A. P. Dodd).

Habitat: Chindera (Tweed River), New South Wales.

Type: No. *Hy 3074*, Queensland Museum, Brisbane, the specimen on a tag with type *albiclava*; head, a fore wing and a hind tibia with slide type of *Cheiloneuroides bicristatus* Girault.

13. ANAGYRUS CICADA new species.

Frons narrow. Scape rather much dilated.

Female:—Length, 1.05 mm. The ovipositor distinctly extruded a short distance. Hind tibial spur slender.

Like *howardii* but a half smaller, the middle coxæ are pure white, the legs are white, the thorax æneous and without numerous distinct large punctures, finely, densely punctulate, the axillæ reticulated, the fore wings are hyaline, the funicle and club yellowish white, one side of funicles 1-3 and base of club 1, black. Apex of scape pale. Venation pale; postmarginal vein very short, shorter than the marginal, the stigmal moderately long and slender, the marginal a little longer than wide. Hairless line of fore wing guarded proximad by a distinct line of stiff setæ proximad of which are about six lines of smaller cilia. Funicles 2 and 3 longest, subequal, somewhat longer than wide, subequal to the pedicel, 1 a little shorter.

From two females caught in forest, July 27 and August 2, 1913.

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 3075*, Queensland Museum, Brisbane, one specimen on a tag with type *howardii*; head, fore wing, hind tibiæ and head with slide type of *dius*.

14. ANAGYRUS DYARI new species.

Female:—Length, 2.20 mm. Mandibles rather abnormal in that the lateral angle of each forms an acute tooth. Thus two short acute teeth and an inner truncation from base of the mesal one.

Differs from all of the first eight species except *cellinini* and *howardii* by having the numerous large punctures on head, scutum and (less numerous) scutellum distinct. Differs from both the named species in having all the coxæ metallic. Specifically from *cellinini* in having the fore wings a little less darkly infuscated, the abdomen is shorter, the hind tibiæ dorsad just below knee blackish, the funicle a little stouter, the cephalic femora dark metallic along proximal half. In *howardii*, the legs are distinctly paler, the wings hyaline, the antennæ different. Scape greatly dilated. Hind tibial spurs double. Tegulæ reddish brown.

From one female caught in jungle, Tweed River, May 4, 1914 (A. P. Dodd).

Habitat: Tweed Heads, New South Wales.

Type: No. *Hy 3076*, Queensland Museum, Brisbane, the specimen on a tag with type *cellinini*; head, a fore wing and a hind tibia on a slide.

15. ANAGYRUS DIUS new species.

Frons moderately broad. Hind tibial spurs single.

Female:—Length, 1 mm.

Like *novipurpureus* in structure (the axillæ with a carina between them) but the legs are bright golden yellow, the thorax metallic green (not purple), the form more slender and flattened and less robust, the ovipositor not extruded, the scutum more densely scaly, the scutellum not longitudinally lined but densely punctulate. Venation yellow. Hairless line of fore wing with about six lines proximad of it. Funicles 1 and 2 dusky, rest of antenna distad yellowish white. Apex of scape whitish. Funicles 1-3 subequal, a little longer than wide, shorter than the pedicel; 4-6 wider than long. Scape not greatly dilated, only moderately so.

From one female caught April 13, 1913 in forest (A. P. Dodd).

Habitat: Cloncurry, Queensland.

Type: No. *Hy 3077*, Queensland Museum, Brisbane, the specimen on a tag with type *novipurpureus*; head, fore wing and hind tibiæ on a slide.

16. ANAGYRUS SUBGIGANTEUS new species.

Female:—Length, about 3.35 mm. Robust.

Dark rosaceous coppery, the head, face of pronotum and mesopleurum æneous green, the antennæ black metallic. Legs concolorous but the tarsi soiled white, the cephalic knees, middle coxæ, femora and knees and most of dorsal edge of caudal femur, reddish brown. Cephalic femur toward apex above and immediate tips of cephalic tibiæ, reddish brown. The very broad caudal wings hyaline, the fore wings very deeply infuscated from base nearly to apex, the latter rather broadly hyaline, the infuscation rather light proximad, distinctly much darker and pronounced from a little proximad of the bend of the submarginal vein distad to apex, sooty except the first part out to end of stigmal vein which is dark brown; proximal margin of the deeper infuscation proximad of the hairless line and obliqued caudo-proximad from cephalad; distal margin of infuscation convex. Venation brown-black, the postmarginal vein nearly four fifths the length of the stigmal; hairless line with many lines of cilia proximad of it. Axillæ normal. Frons with rather dense pin-punctures, moderate, a little wider than the cheeks are long, the latter a little over half the length of the eyes. Femora and tibiæ distinctly compressed (except middle legs); hind tibial spur distinct. Mesopleurum very finely, densely sheened. Dorsal thorax (except propodeum) with numerous, small yet distinct setigerous punctures, the pubescence contrasting, silvery, moderately dense. Scutellum extending to abdomen. Expansion of scape great; pedicel small, scarcely longer than wide at apex; funicle 1 somewhat longer than wide, somewhat longer than the pedicel, the others all a little shorter and shortening slightly distad.

From one female caught by sweeping foliage of forest trees, September 20, 1914.

Habitat: Capeville (Pentland), Queensland.

Type: No. *Hy 3078*, Queensland Museum, Brisbane, the specimen in alcohol with type of *Atoposoma unguttatipes*, the head and several legs severed from the body.

This species is able to jump enormous distances.

Genus COCCIDOXENUS Crawford.

This genus seems to intergrade with *Anagyrus* Howard, the scape gradually widening, the frons variable. However, it may prove sufficiently distinct to be retained. The tendency of the species to cluster about the genotype is marked.

1. COCCIDOXENUS AUSTRALIENSIS (Girault). Female.

Anagyrus australiensis Girault.

Length, 2.75 mm. Robust. Dark æneous green, shining; cephalic knees, tips of cephalic tibiæ and cephalic tarsi fuscous, the other tarsi white, the distal joint black. Fore wing with a distinct broad smoky stripe across it from the apex of the submarginal vein, its distal margin conical, the apex obtuse and distad of end of stigmal vein, the proximal margin nearly straight. Venation black. Frons shagreened, with scattered thimble punctures; eyes convergent above, the lateral ocelli near them; clypeus emarginate at the meson shallowly (cephalic margin); antennæ widely separated at base, inserted near the clypeus. Marginal vein not much longer than wide, slightly shorter than the postmarginal which is only about two thirds the length of the stigmal. First tooth of mandible acute, the second broadly somewhat concavely truncate. Thorax and abdomen very finely polygonally reticulate, the scutum also with minute, shallow punctures, the scutellum densely punctulate. Abdomen depressed conic-ovate, the valves of the ovipositor extruded for a sixth of the length of the abdomen. Oblique hairless line of fore wing narrow. Propodeum short, without a median carina, laterad with dense feathery, greyish pubescence. Discal cilia of fore wing dense and fine, the marginal cilia very short. Antennæ 12-jointed, cylindrical, the club 3-jointed and only slightly enlarged, its distal joint subhemispherical, its intermediate joint shortest, wider than long; pedicel slightly shorter than funicle

1, the funicle joints shortening distad, the distal two subquadrate. Scape moderately widely dilated at apex. One very short ring-joint present. Antennæ concolorous, moderately pubescent. Frons with some bronze.

Habitat: Brisbane, Queensland. Associated with a psyllid.

Type: No. *Hy 3079*, Queensland Museum, Brisbane, a female on a card, the head on a slide.

This species resembles the North American *Anagyrus nubilipennis* Girault.

2. COCCIDOXENUS CHANNINGI (Girault). Female.

Anagyrus channingi Girault.

Length, 2.20 mm. excluding ovipositor.

Bright metallic blue-green, the wings wholly hyaline; postmarginal vein as long as the stigmal, the marginal a little longer than wide. Legs and tegulæ yellow. Valves of ovipositor black. Head and thorax densely reticulated, the mesonotum with numerous thimble punctures. Posterior tibiæ with an obscure, roundish spot above near each end. Posterior coxæ concolorous. Antennæ 12-jointed, with one very short ring-joint, the scape compressed distad, joints 2 and 3 of funicle longest, subequal to the pedicel, 1 slightly shorter, 6 a little wider than long; club wider than funicle, short, ovate, 3-jointed; antennæ dark, suffused slightly with brownish. Ovipositor exserted for half the length of the abdomen.

Habitat: South Australia: Port Lincoln.

Type: I. 1471, South Australian Museum. One specimen and a slide with the head.

3. COCCIDOXENUS PENNI (Girault). Female.

Anagyrus penni Girault.

Length, 2 mm. excluding ovipositor.

Dark metallic green, the scutellum more or less coppery; wings hyaline, the postmarginal vein distinctly not more than a half the length of the stigmal; legs dark brown; antennæ as in *channingi* but the club is more or less distinctly brownish, the scape less compressed distad, the second and third funicle joints not distinctly longer than wide, a little wider than long, somewhat shorter than the shorter pedicel, the funicle widening distad. Axillæ blue, barely separated. Ovipositor exserted for a length equal to a fifth that of the abdomen.

Habitat: South Australia: Port Lincoln.

Type: I. 1472, South Australian Museum. One specimen and a slide with the head.

4. COCCIDOXENUS EMERSONI (Girault). Female.

Anagyrus emersoni Girault.

Length, 1.50 mm.

Like *penni* in mandibular structure. Bright bluish green, the scutellum with æneous tinges; legs bright yellowish brown, the cephalic femur and the middle of cephalic tibia metallic greenish, the posterior femur dusky proximad. Fore wings with a distinct yellowish stain under the stigmal and marginal veins, otherwise hyaline. Antennæ concolorous with the legs but the scape metallic. Postmarginal vein no longer than half the length of the stigmal, the marginal subpunctiform. Head and thorax with a minute scaly sculpture. Ovipositor not extruded.

Habitat: New South Wales: Sydney.

Type: I. 1474, South Australian Museum. One specimen and a slide with the head.

5. COCCIDOXENUS WORCESTERI new species. Female.

Length, 1.32 mm.

Like *channingi* but bright metallic green, the ovipositor not exserted, the postmarginal vein a fourth shorter than the stigmal, the sculpture of the head a little rougher than that of the scutum, the caudal tibia without a black spot, the legs bright lemon yellow except caudal

coxæ. Funicle joints all distinctly shorter than the pedicel, the latter and the scape metallic green except at apex. Distal three funicle joints wider than long. Outer apical angle of the broad second tooth, acute. The minute ring-joint is present. Funicle and club concolorous with legs, the scape only slightly widened distad. Marginal vein punctiform. Frons moderately narrow.

Habitat: Capeville (Pentland), Queensland. Forest, January.

Type: No. *Hy 3080*, Queensland Museum, Brisbane, a female on a tag, the head on a slide.

A female, forest-downs, Hughenden, July 14, 1912.

6. COCCIDOXENUS WUNDTI new species.

Female:—Length, 1.05 mm.

Runs to *Anagyrus purpureus* but the legs are concolorous except the brown intermediate femora and tibiæ and the yellow tarsi, knees, front tibiæ and distal half or more of hind tibia. Body densely scaly. Ovipositor barely exserted. Dark metallic green. Antennæ black or else concolorous, the club lighter; scape only very slightly thickened distad, the pedicel much longer than any of the funicle joints which are subquadrate, the distal two wider than long; funicle 1 not quite half the length of the pedicel. Postmarginal vein about a third the length of the slender stigmal, a little longer than the marginal. Frons broad. Axillæ a little separated. Hind tibial spurs apparently single. Middle tibia with a dusky spot just below knee.

From one female taken sweeping on forest downs, July 14, 1912.

Habitat: Hughenden, Queensland.

Type: No. *Hy 3081*, Queensland Museum, Brisbane, the specimen on a tag.

7. COCCIDOXENUS LUNULATUS new species.

Female:—Length, 1.28 mm., exclusive of ovipositor which is distinctly, shortly extruded.

Very similar to *australiensis* but differs in the following particulars: The general coloration is lighter green, the lower face dark blue; the middle legs are pale brownish yellow except femora proximad; funicle 2 is longest, somewhat longer than wide, 1 subequal to 3 and the pedicel, 5 and 6 wider than long; the band on the fore wing is not so black; the axillæ are acute at mesal aspect, distinctly separated for a short distance (in *australiensis* blunt at mesal end and separated narrowly by a short sulcus); the abdomen is somewhat shorter, the pubescence on scutum more variable; the thorax bears a white lunula laterad just cephalad of the tegulæ and the latter are margined cephalad with pale brown. Ovipositor valves reddish brown just beyond middle nearly to tip (also present more faintly in *australiensis*); the funicle is suffused with white. Scape serrate dorsad. Frons densely shagreened, moderately narrow, about three and a half diameters of the cephalic ocellus). Ring-joint present. Hind tibial spur single. Face inflexed. Compared with type of *australiensis*.

From one female caught sweeping in forest, April 14, 1914 (A. P. Dodd).

Habitat: Cloncurry, Queensland.

Type: No. *Hy 3082*, Queensland Museum, Brisbane, the female on a tag; hind leg, fore wing and a head on a slide.

8. COCCIDOXENUS TRICOLOR new species.

Female:—Length, 0.70 mm. Small, stout.

Dark metallic green, the broad wings hyaline, the abdomen orange yellow at proximal half except narrowly along the margins; antennæ and legs pale yellow. Head and thorax densely scaly. Marginal vein quadrate (a little longer than wide in one wing), the stigmal a little longer than it, the postmarginal vein subequal to the marginal or a little shorter. Axillæ distinctly but not widely separated. Abdomen short, triangular, the ovipositor slightly

extruded. Mandibles with the second tooth broadly truncate. Resembles *Ectopiognatha minor* Perkins. Frons twice the diameter of the cephalic ocellus. Pedicel a little dusky. Cheeks somewhat shorter than the eyes. Pedicel longer than any of the funicle joints of which 4 is longest, somewhat longer than wide, 5 next, then 6 which is barely longer than wide; 1-3 subequal, moniliform. Club somewhat over half the length of the funicle. Segment 3 of abdomen apparently occupying two thirds of the surface. Differs from *Fulgoridicida dichroma* Perkins in having the second tooth of mandible broad, the proximal three joints of funicle smaller than the distal and the general metallic green color of the thorax. Near to *bicolor* from which it differs principally in the color of the abdomen.

From one female taken by sweeping in jungle, May, 1913 (A. P. Dodd).

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 3083*, Queensland Museum, Brisbane, the female on a slide.

9. COCCIDOXENUS BICOLOR new species.

Female:—Length, 0.80 mm. Habitus of a scelionid.

Brown, the head and thorax washed with metallic greenish, the wings hyaline, the abdomen pale honey yellow (darkening after death or drying), the antennæ and legs concolorous with the abdomen. Head and thorax finely scaly. Axillæ distinctly separated for a short distance. Marginal vein slightly longer than wide, the postmarginal and stigmal veins subequal, each distinctly longer than the marginal but not twice its length, the two forming a V. Second tooth of mandible broadly truncate. Pedicel much longer than any of the funicle joints of which the first three are subquadrate and narrower, the distal three subequal, a little longer than wide, each distinctly longer than the proximal three. Club about two thirds the length of the funicle. Frons narrow but not very narrow.

From one female caught by sweeping a jungle-clothed forest streamlet, January 3, 1913 (A. P. Dodd).

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 3084*, Queensland Museum, Brisbane, the specimen on a tag; head on a slide.

10. COCCIDOXENUS INCONSPICUUS new species.

Female:—Length, 0.80 mm. Axillæ with a carina between them. Ovipositor not extruded.

Metallic purple, the wings hyaline. Body finely scaly. Tarsi yellowish, also knees and tips of tibiæ; middle tibiæ yellow except proximad. Scape and pedicel concolorous, rest of antennæ yellowish brown, the first two funicle joints darker, subequal, wider than long, 3 slightly longer than 2, rest like 2 but 6 distinctly wider; pedicel distinctly longer than any of the funicle joints. Scape pale at tip, compressed, its bulla concolorous. Frons narrow. Club two thirds the length of the funicle or a little more. As compared with *wundti*, the body is distinctly smaller, the thorax distinctly less flat, convex, the abdomen more produced beneath. Venation pale yellow, the postmarginal vein not quite half the length of the average stigmal. Hairless line of fore wing with at least five lines of cilia proximad of it. Discal ciliation of the broad fore wing exceedingly dense and fine. Hind tibial spur single.

From one female caught in forest, January 6, 1913.

Habitat: Capeville (Pentland), Queensland.

Type: No. *Hy 3085*, Queensland Museum, Brisbane, the specimen on a tag with type *wundti*; head, hind tibia and fore wing with slide type of *Rhopalencyrtoidea purpureicorpus* Girault.

Fulgoridicida apparently differs from this genus in having the third segment of the abdomen occupying most of the surface.

PARACALOCERINUS new genus.

1. PARACALOCERINUS AUSTRALIENSIS new species. Genotype.

Female:—Length, 1.20 mm.

Metallic purple, the scutellum and propodeum green; cephalic and intermediate tibiæ pale brown, the hind tibiæ whitish below the knees for some distance; tarsi pale brown. Fore wings brown from the bend of the submarginal vein to apex, the brown broken by a large, obliquely ovate white area at each wing margin and thus two opposite white areas, situated just a little distad of the apex of the venation. Stigmal and postmarginal veins short, the former a little the longer, the marginal vein long, four or more times longer than the stigmal; oblique hairless line distinct. Axillæ nearly meeting. Ovipositor valves black, extruded for a length equal to half that of the abdomen. Head and thorax with a fine scaly sculpture. Mandibles with two equal acute teeth. Propodeal spiracle minute, round. Antennæ 9-jointed, the club solid, no ring-joint. Scape slender, the pedicel much longer than any of the funicle joints which are all much wider than long, and widening distad; scape without the bulla about as long as the funicle, the club more or less the same length. Frons moderately broad, the face inflexed.

From one female captured by sweeping the forest floor, top of coast range of mountains (1,500 feet), May 26, 1912.

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 3086*, Queensland Museum, Brisbane, the specimen on a tag; head on a slide.

In a female from Gordonvale, January 1, 1913, caught by A. P. Dodd sweeping a jungle-clad forest streamlet, the middle tibia was lemon yellow.

A female was caught in jungle, May, 1913, at the same place and another there in the forest on March 31, 1914, the latter with no trace of wings. Also, a normal female by sweeping grass in forest, Capeville, Pentland, Queensland, September 15, 1914. A female from Kuranda, Queensland, September 12, 1913 (A. P. Dodd).

ECTROMELLA new genus.

Female:—Head thin, somewhat longer than wide, the antennæ 11-jointed, the funicle 5-jointed, three club joints, one very short ring-joint; scape cylindrical. Wings hyaline, the marginal vein barely longer than wide, the stigmal short but distinctly longer than the marginal, the postmarginal nearly as long as the marginal, subobsolete; wings with an oblique hairless line. Axillæ barely separated. Abdomen pointed conic-ovate, the ovipositor not extruded. Form small, slender. The mandibles are very small, with two acute teeth. Frons narrow at upper face, rather broad caudad at occipital margin, the eyes rounded; cheeks long. Hind tibial spur single, the middle tibial spur over twice its size but not very stout. Oblique hairless line of fore wing obscure, apparently running along against the submarginal vein. Fore wings densely, very finely ciliate discally. Scutellum convexly rounded at apex.

1. ECTROMELLA BICOLOR new species. Genotype.

Female:—Length, 0.65 mm.

Dark metallic purple, the thorax mostly yellowish brown washed lightly with purplish, the pronotum and propodeum purple. Antennæ yellowish brown, the pedicel as long as the first funicle joint which is twice longer than wide and distinctly longer than the other four joints of which 2 is shortest, somewhat shorter than 5 and narrowest; joints 3 and 4 subequal, each a fourth shorter than 1; club dusky, wider than the funicle. Thorax with a distinct scaly sculpture. Legs pale yellow.

Described from one female captured from a window in a wool-house in the city, October 3, 1911.

Habitat: Brisbane, Queensland.

Type: No. *Hy 3087*, Queensland Museum, Brisbane, the specimen on a slide.

Also one female, Townsville, January 23, 1913. Compared with type.

Genus EPIDINOCARSIS Girault.

Head a little longer than wide (cephalic aspect), the antennæ inserted near the clypeus, 12-jointed with a ring-joint, the scape enormously dilated ventrad, the funicle filiform, the joints all longer than wide, the first as long as the pedicel which is elongate; club 3-jointed, cylindrical. Abdomen elongate, sharply pointed, distinctly longer than the head and thorax combined, the ovipositor slightly exserted. Marginal and stigmal veins subequal, moderately long, the stigmal curved, the postmarginal a half shorter; oblique naked line present. Vertex punctate. No carina between the base of the antennæ. Propodeum without a median carina, transverse, widening distad. Frons moderately broad. Mandibles with two acute teeth. Axillæ meeting or separated. Corrected description.

1. EPIDINOCARSIS TRICOLOR Girault. Female. Genotype.

Length, 1.80 mm. Orange yellow, the legs pale yellow, the coxæ nearly white, the fore wings slightly stained proximad under the submarginal vein; pronotum (except laterad), cephalic margin of scutum, a large egg-shaped spot filling the center of scutellum from base to apex, two large areas on metathorax, their lateral margins involving the spiracle and separated broadly at meson and the distal half or more of the abdomen, purplish black. Head black, also the antennæ except distal fifth or more of the scape, a little less than distal half of the pedicel, distal (sixth) funicle joint and the club which are white. Head and thorax finely densely alutaceous; the vertex and scutum with many pin-punctures. Distal funicle joint a little over half the length of the first which is three and a half times its own width. Funicle 6 not twice longer than wide, subequal to club 1.

Habitat: Gordonvale (Cairns), Queensland. Forest, 1,500 feet, May 30, 1913.

Type: No. *Hy 3088*, Queensland Museum, Brisbane, the female on a tag; head on a slide.

2. EPIDINOCARSIS SUBFLAVICEPS new species.

Female:—Length, 2 mm., excluding the ovipositor which is extruded for a length equal to a fifth that of the abdomen.

Like *tricolor* but the head is concolorous with the body as are also the legs; the fore wings are hyaline; all of the pronotum and scutum immaculate but the face of pronotum is black; scutellum with a narrow black line down the meson or a central spot mesad. Otherwise as in *tricolor* except that the funicle and club are orange yellow to brown-black, the second funicle joint white, the third and fourth more or less blackish. The pedicel is a little shorter than the first funicle joint while the distal joint of the funicle is longer than in *tricolor*, over twice longer than its width, over half the length of the club while funicle 1 is subequal to the pedicel. Cephalic margin of scutum sometimes blackish.

From one female caught by sweeping in forest, September 12, 1912.

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 3089*, Queensland Museum, Brisbane, the specimen on a tag; head on a slide with type of *tricolor*.

3. EPIDINOCARSIS MIRUS new species.

Female:—Length, 1.30 mm.

Uniformly brownish yellow, the wings hyaline. From *tricolor* antennæ, differing in that all of the funicle joints are black except 2 and 3 which together with the club are pure white; and from *subflaviceps* in having much shorter distal funicle joints as in *tricolor* and in

subflaviceps only the second joint of the funicle is white. Mesonotum clothed with short white pubescence. Legs pale yellowish. Ovipositor only slightly exserted. The short ring-joint is present. The extreme tip of the scape is black in all three species. The ovipositor in *mirus* is barely exserted. Scape colored as in the other species.

Described from one female captured by sweeping miscellaneous vegetation along the left bank of the Pioneer River, October 21, 1911.

Habitat: Mackay, Queensland.

Type: No. *Hy 3090*, Queensland Museum, Brisbane, the above specimen on a tag; the head and a hind leg on a slide.

A second female from virgin jungle, Malanda, Northern Queensland, December 31, 1911.

4. EPIDINOCARSIS FUSCIVENTRIS new species.

Female:—Length, 1.80 mm.

Orange yellow, the face of pronotum, ventral margin of the face and the antennæ jet black; wings hyaline; legs white; coxæ, abdomen and metapleura, brownish black; pronotum silvery white, also an oval spot in center of propodeum with a black dot in its center. Tegulæ silvery. An inverted conspicuous, tau-shaped marking on each side of scape at apex silvery white. Eyes hairy. A quadrate, white dot on scape at base. Mandibles with two acute teeth. Funicle 1 about four times longer than wide, somewhat longer than the pedicel; 2-4 subequal to each other and to the pedicel, 6 somewhat longer than wide; club longer than distal two funicle joints together. Caudal tibial spurs double. Frons moderate. Cheeks not half the length of the eyes. Ring-joint present. Oblique hairless line of fore wing closed at both ends; the numerous cilia proximad of it no coarser than the main ciliation; marginal vein four times longer than wide, a little shorter than the long stigmal, the latter a little shorter than the postmarginal. Scutum and prothorax with short silvery pubescence. Postscutellum lemon yellow, laterad the propodeum concolorous with abdomen. Head and thorax extraordinarily, finely, densely, pin-punctured and also the dorsal surface of the abdomen. Venation rather abnormal. Axillæ distinctly separated for some distance.

From one female taken by sweeping, May 4, 1914 (A. P. Dodd).

Habitat: Tweed Heads (Tweed River), New South Wales.

Type: No. *Hy 3091*, Queensland Museum, Brisbane, the female on a tag; fore wing, caudal tibiæ and head on a slide.

5. EPIDINOCARSIS AURATISCUTUM new species.

Female:—Length, 1.25 mm.

Like *tricolor* but differing as follows: The large, black spot on scutellum is absent, the mesopleurum is purplish black while the distal half of dorsum of the honey yellow abdomen is not black, the extreme tip of abdomen silvery white. The funicle joints are all a little shorter. Postmarginal vein hardly developed, the stigmal somewhat shorter than the marginal. Otherwise the same.

From one female caught sweeping jungle along a forest streamlet, December 4, 1913.

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 3092*, Queensland Museum, Brisbane, the specimen on a tag; head and a fore wing on a slide.

6. EPIDINOCARSIS CUNEINOTA new species.

Female:—Length, 1.80 mm., including the ovipositor which is shortly extruded, black, white at base.

Differs from *tricolor* only in having the postmarginal vein a little over a third the length of the stigmal and in bearing a long conical black marking on scutum from base nearly to apex, the base of this marking fitting the broad mesal black of the pronotum which widens rapidly from it; hence the base of the marking is but moderately broad, the whole a little

longer than wide at base. Also only distal third of pedicel is white, the distal two thirds of dorsum of abdomen is purplish black and there is a wider than long marginal blackish area on each side of abdomen at base. Tibiæ concolorous with the body. Axillæ joined, with a carina between them. Venation yellow. Hairless line of fore wing with many lines of cilia proximad of it, broad, closed caudad. Hind tibial spurs double. Marginal vein four or five times longer than wide. Face inflexed. Cheeks nearly as long as the eyes, the frons moderately broad.

From one female caught June 10, 1914, sweeping in forest.

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 3093*, Queensland Museum, Brisbane, the specimen on a tag; head, fore wing and a hind tibia on a slide.

7. EPIDINOCARSIS FOERSTERI new species.

Female:—Length, 1.35 mm.

Orange yellow, the face and dorsum of pronotum except laterad, propodeum, dorsal abdomen, median line of scutellum centrally and antennæ, black. A silvery, curved stripe across scape just before apex; club and funicles 5 and 6 silvery white, also the legs, funicle 4 a little suffused with whitish. Wings hyaline. Scrobes not joined dorsad. Funicle 1 a little longer than the pedicel, 2-4 subequal, each a little shorter than 1, 6 a little longer than wide. Hind tibial spur single. Hairless line of fore wing closed at each end, proximad of it, many lines of cilia. Axillæ with a carina separating them. Scutum and scutellum with short silvery pubescence. Scape greatly dilated. Venation normal. Funicle 1 about two and a half times longer than wide.

From one female caught by sweeping forest on sand-ridges near coast, May 8, 1914 (A. P. Dodd).

Habitat: Chindera (Tweed River), New South Wales.

Type: No. *Hy 3094*, Queensland Museum, Brisbane, the specimen on a tag; fore wing, head and a hind tibia with slide type of *Aphycus sanguinithorax*.

8. EPIDINOCARSIS SIMILIS new species.

Female:—Length, 1.10 mm.

Very similar to *auratiscutum* Girault but only the face of the pronotum is purplish and the antennæ differ in that the scape is much less dilated and is distinctly narrowly black at tip, the discal funicle joint is white only at tip; the pedicel and first three funicle joints are rather shorter and the head is orange yellow. Dorsum of abdomen more or less purplish or washed with that color. Propodeum wholly black in both species except cephalad of spiracle. The fore wing is more stained under the venation in this species, the venation more distinct (in both species about eight lines of discal cilia proximad of the hairless line). The scape is distinctly white at base (barely so in *auratiscutum*). Hind tibial spurs single.

From one female caught sweeping in forest, April 12, 1914.

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 3095*, Queensland Museum, Brisbane, the specimen on a tag; fore wing, hind legs and head on a slide.

9. EPIDINOCARSIS NIGRIFLAGELLUM new species.

Female:—Length, 1.75 mm.

Orange yellow, the wings hyaline, the phragma, propodeum and abdomen brown-black, the antennæ jet black except part of the scape which is colored as in the other species. Postmarginal vein a little longer than the stigmal which is still longer than the marginal. Head and thorax densely, finely, scaly reticulate, the abdomen somewhat more coarsely so, the second segment occupying somewhat less than a fourth of the surface, the third occupying the rest of the surface, bearing a spiracle at base which bears several very long setæ. Pedicel

subequal to funicle 3, a little shorter than 1 which is longest, nearly thrice longer than wide; funicle 6 somewhat longer than wide. Ovipositor inserted a little beyond proximal half. Legs pale, whitish. Oblique hairless line present. Stigmal and postmarginal veins longer than in the genotype. One minute ring-joint present. Axillæ separated. Abdomen depressed, obtusely triangular, no longer than the thorax. Scutum with short, black not very dense pubescence, the scutellum with much less pubescence. Like the genotype but the abdomen shorter.

From one female caught on flowers of *Bæckea*, April 22, 1913 (H. Hacker).

Habitat: Brisbane, Queensland.

Type: No. *Hy 3096*, Queensland Museum, Brisbane, the female on a slide.

Genus MENISCOCEPHALUS Perkins.

Head menisciform, the eyes widely separated in front, the axillæ in a triangle with extremely wide base, the caudal ones close to or touching the eye margins, the sculpture consisting of very large deep punctures. Mandibles short, wide, with two acute teeth at the apex. Antennæ short and stout, inserted far below the middle of the face, the funicle joints short and becoming wider toward the club, clothed with short bristly black hairs. Mesoscutum about as long as the scutellum and bears appressed white setæ. Axillæ meeting inwardly. Propodeum clothed with conspicuous silvery hairs. Wings hyaline, the marginal vein very short, subquadrate, the stigmal moderate, shorter than the marginal, the postmarginal subobsolete. Abdomen short and wide, depressed above, subtriangular, the ovipositor slightly exserted. Antennæ 9-jointed, no ring-joint the club solid.

In the male the antennæ are inserted much nearer the middle of the face and the six funicle joints are elongate, subequal, each constricted in the middle and bearing above and below the constrictions a whorl of long hairs, the pedicel being much shorter than any one of these joints; but the club is one and a half times longer than one of the funicle joints. The axillæ are well separated inwardly. The marginal vein is rather longer than with the female. Genitalia almost entirely extruded.

1. MENISCOCEPHALUS EXIMIUS Perkins. Female; male. Genotype.

Length, 2 mm. Robust.

Head dark blue, the great punctures metallic green, the antennæ yellowish, more or less sordid, largely owing to the dense clothing of setæ, the club paler than the rest. In the male the antennæ, except the scape, are entirely infuscate. Mesonotum dark purplish, opaque or suboqaque, punctured like the head but not so deeply and coarsely; the scutellum very dull; mesopleura blue, opaque. All the tarsi and the tips of the middle tibiæ pale, white or yellowish. Abdomen shining blue across the base.

Habitat: Bundaberg, Queensland. Internal parasite of jassids.

Type: Most likely in the entomological collection of the Hawaiian Sugar Planters' Association, Honolulu.

"Form robust, the head thin, large, convex, lenticular, the antennæ inserted near the mouth, their scrobes subobsolete, the scape slender, the flagellum clavate, one large ring-joint. Thorax convex. Axillæ separated by a distinct carina, otherwise broadly connate. Hind tibial spurs double, the hind tibiæ compressed; front coxæ large, together with their femur and tibia strongly compressed or flattened, the front tibia not quite two-thirds the length of the front femur. Abdomen short, triangular, depressed, the ovipositor not exserted. Frons broad. Scutum with scattered, white, thickened setæ. Fore wings shaped as figured for *Meniscocephalus eximius* Perkins and with the exception of the flattened front legs, large ring joint in the antennæ and the 3-jointed club, this specimen agrees with the description of that species. Marginal vein twice longer than wide, subequal to the stigmal; oblique hairless line present, short, guarded proximad by several short lines of coarse discal cilia, from thence proximad, the

wing naked except at base where there are numerous cilia. The specimen agrees with the original description except that the pedicel is black, the distal half of the club white. Scutellum and axillæ densely shagreened.''

The added notes made from one female, caught on flowers of *Bæckea,* Brisbane, April 22, 1913 (H. Hacker). The specimen is in the collections of the Queensland Museum, a female on a tag, appendages on a slide.

Genus FULGORIDICIDA Perkins.

Head very wide, the hairy eyes extremely large, so that the part between them is very narrow, not more than a third as wide as one of these; ocelli in the form of an isosceles triangle which is much less wide at base than high and the caudal ones are close to the eye margins. Front dull, with dense, excessively minute sculpture. Antennæ slender, the scape simple, the pedicel longer than the first funicle joint, the six funicle joints mostly longer than wide, the club as long or longer than the last three funicle joints. Mandibles bidentate, the teeth acute. Club 3-jointed, wider than the funicle. Thorax dull, sculptured like the front, the axillæ meeting inwardly. Wings hyaline, hairy, the marginal fringes very short, the naked oblique line thin, the marginal vein short and thick and longer than wide, longer than the stigmal, the postmarginal acute and barely developed, shorter than the stigmal. Abdomen subtriangular, wide, depressed, foveated on each side toward base, the fovea bearing short bristles; ovipositor slightly exserted.

In the male, the eyes are much more widely separated, the intervening space about as wide as one eye; the funicle joints are elongate, mostly twice longer than their width, bearing conspicuous, shortish hairs, the pedicel much shorter than the first funicle joint, the club about equal to the two preceding. The head is more decidedly menisciform, the ocelli placed in the portion of the angles of an almost equilateral triangle.

1. FULGORIDICIDA DICHROMA Perkins. Female; male. Genotype.

Length, 1.25 mm.

Head dull black, the scape yellowish or brownish yellow, the rest of antenna sordid. Thorax opaque, black with slight greenish or bluish tinge, the tip of the scutellum more brightly blue or green in some aspects; mesepisternum more or less brownish or piceous; legs yellow, the cephalic femora darker.

Abdomen of male very short and wide, blackish; that of the female yellow or brownish, dark apically and along the sides to near base. Antennæ of male sordid yellowish, the elongate funicle joints subequal, the pedicel much shorter than the first of these and apparently darker than the other joints.

Habitat: Cairns, Queensland. From eggs of *Platybrachys* or an allied genus.

2. FULGORIDICIDA SAINTPIERREI (Girault).

Anagyrus saintpierrei Girault. Female.

Length, 2 mm.

Differs from *Anagyrus penni* Girault in that the mandibles have the second tooth acute, not broadly truncate at apex and it is only a third of the size of the first tooth. Dark metallic bluish, the head and mesothorax rather bright green; legs metallic bluish, the tarsi brown. Wings hyaline, the venation blackish, somewhat as in *penni.* Antennæ the same but the scape hardly at all dilated, the first and second funicle joints longest, each subequal to the pedicel, longer than wide (distinctly), the following joints more or less subquadrate; antennæ blackish. Ovipositor projecting slightly.

Habitat: South Australia: Port Lincoln.

Type: I. 1473, South Australian Museum, one specimen on a card and the head on a slide.

3. FULGORIDICIDA MINUTA new species.

Female:—Length, 0.70 mm. Frons moderate.

Dark metallic green, polygonally scaly. Knees, cephalic tibiæ, other tibiæ except a dusky ring a short distance below knees and the tarsi yellowish white; also the funicle, club and apex of pedicel. Axillæ very slightly separated if at all. Mandibles with two equal acute teeth, very small. Funicle joints enlarging distad, the first three subequal, narrower than the distal three, each a little longer than wide, 4 and 5 subequal, somewhat longer and wider than 3, 6 somewhat longer and wider than 5, about twice the size of 3, a little longer than wide, a little shorter than the pedicel. Club three fourths the length of funicle and a little wider. Cheek as long as the eyes. Hairless line of fore wing with many lines of discal cilia proximad of it. Venation yellow; a small dusky spot at the quadrate marginal vein. Postmarginal vein nearly as long as the thickened marginal, the stigmal not long but somewhat longer than the marginal. Fore wings moderately broad, finely, densely, ciliate. Club 1 longer than funicle 6.

From one female caught in forest, November 1, 1911.

Habitat: Cairns, Queensland.

Type: No. *Hy 3097*, Queensland Museum, Brisbane, the female on a slide with type slide of *Epidinocarsis similis* Girault.

4. FULGORIDICIDA NIGRICORPUS new species.

Female:—Length, 1.05 mm.

Black, the wings subhyaline, the antennæ and legs brown-black. Head and thorax densely punctate. Marginal vein semicircular, barely longer than wide, the postmarginal vein much shorter than the marginal, as long as wide, the stigmal a little longer than the marginal. Axillæ a little separated. The second tooth of mandible a little longer than the first. Frons about two and two third times the width of an ocellus. Antennæ filiform, the scape (excluding bulla) not as long as the funicle; pedicel longer than any of the funicle joints of which 2 is longest, one and a half times longer than wide, 1 somewhat shorter than it, 3-4 subequal, each a little shorter than 2; funicle 6 subquadrate. Club a little wider than the funicle. Propodeum finely transversely lineolated. Thorax with scattered short yellowish hairs. Hind tibial spur single. At least ten lines of somewhat coarser cilia proximad of hairless line.

From one female taken by sweeping forest, March 6, 1912.

Habitat: Thursday Island, Torres Strait.

Type: No. *Hy 3098*, Queensland Museum, Brisbane, the specimen on a tag; head, hind tibia and a fore wing on a slide.

5. FULGORIDICIDA SIMPLICISCAPUS new species.

Female:—Length, 0.80 mm.

Very dark metallic green, the head and thorax almost black; knees, tips of tibiæ and the tarsi brownish; middle legs suffused with brownish. Wings hyaline. Antennæ concolorous; scape long and slender; pedicel rather long, as long as funicles 2 and 3 united, much longer than any of the funicle joints of which 3 is longest, somewhat longer than wide; funicle 1 barely longer than wide together with 2 which is a little longer, not as long as the pedicel. Distal funicle joint somewhat wider than long; club somewhat over half the length of the funicle, somewhat wider than the funicle. Mandibles with two short, subequal, acute teeth. Marginal vein a little longer than wide, the postmarginal very short, half the length of the marginal, the stigmal nearly twice the length of the marginal. Oblique hairless line present. Frons about half the width of the eyes, moderately narrow. Lateral ocelli slightly separated from the eyes. Cheeks nearly as long as the eyes. An obscure stain about the marginal vein. Head and thorax densely, finely punctulate, the axillæ a little smoother, the abdomen shining, finely scaly reticulate. Axillæ joined at meson. Scrobes rather long. Abdomen as long as the thorax.

From one female from miscellaneous sweepings along the Herbert River, February 26, 1913.

Habitat: Halifax (Ingham), Queensland.

Type: No. *Hy 3099*, Queensland Museum, Brisbane, the female on a tag; head, a fore wing and an antenna on a slide.

EPISTENOTERYS new genus.

Female:—In my table of genera runs to the group containing *Coccidoxenus* Crawford but differs from all the included genera in having the vertex flat (the frons prominent), the face greatly inflexed and inclined ventro-caudad. Frons of moderate width. Antennæ capitate, the large club somewhat longer than the funicle, the joints of the latter transverse linear, rapidly widening distad; scape slender; pedicel over half the length of the funicle. Mandibles small, with two acute teeth. Cheeks long. Marginal vein punctiform, the stigmal long and slender, curved, the postmarginal as long as the marginal; oblique hairless line present. Axillæ just meeting inwardly. Pronotum transverse-linear. Abdomen ovate, as long as the rest of the body, the ovipositor extruded for a third of its length. Hind tibial spur single. Scutellum rounded at apex. Thorax with a short phragma.

1. EPISTENOTERYS MARMORATIPES new species.

Female:—Length, 1 mm., excluding the ovipositor.

Orange yellow, the legs, occiput, ventral half of face, apex of pedicel, club and ventral edge of scape, silvery white. Abdomen silvery white, the distal half of ovipositor valves dusky, the dorsal abdomen with five rather broad brownish black cross-stripes, the first at base, the fifth at apex; two quadrate marginal spots of the same color between stripes 1 and 2, the latter and 5 accented quadrately at lateral margin. Pronotum except laterad and the cephalic margins (cephalic fourth) of scutum blue-black; phragma, antennæ, propodeum except cephalo-laterad rather broadly, a convex stripe across scutellum just before apex, brownish black. Legs marked as follows: A broad dusky band around middle of cephalic tibiæ and apex of same; cephalic knees dusky; two rather broad bands of same encircling middle tibiæ, middle tibiæ at apex and base; the same on caudal tibiæ but the caudal knees are also dusky black and the tibiæ at apex black only dorsad. Base of scape white. Fore wings very finely ciliate discally, stained lightly from bend of submarginal vein to apex of stigmal; proximad of hairless line (which is closed caudad), over fifteen lines of cilia which are about twice coarser than the main ciliation yet fine. Cheeks just ventrad of eye dusky.

From one female taken in forest, May 2, 1914 (A. P. Dodd).

Habitat: Tweed Heads (Tweed River), New South Wales.

Type: No. *Hy 3100*, Queensland Museum, Brisbane, the specimen on a slide with the slide type of *Anagyrus novipurpureus* Girault.

Genus ECHTHRODRYINUS Perkins.

Head much wider than the cephalic part of the mesonotum, subsemicircular, the space between the great eyes very narrow, where narrowest not more than half the width of one of the eyes; caudal ocelli close to the eye margins and much more remote from the cephalic one than from each other, the face inflexed. Eyes clothed with very short, pale hairs. Mandibles with one small but distinct and more or less acute tooth and an inner apical truncation with its angle subrectangular, forming a distinct truncate second tooth. Antennæ inserted near the mouth, the scrobes elongate and convergent above, the scape simple, the six funicle joints short and not differing much in length but the apical ones much wider than the basal; club with three subequal joints and as long as the three or four preceding joints of the funicle united; pedicel elongate, as long, or longer than, the first two joints of the funicle but not much thickened. Maxillary palpi short, joints 2 and 3 extremely short, 4 distinctly longer than either.

Face between the cephalic ocellus and the great facial impression nearly smooth but with some sparse and very faint punctures. Mesonotum finely punctured and somewhat shining, the scutellum excessively densely sculptured except at apex, the axillæ meeting inwardly. Wings with a very short marginal fringe, the marginal vein very short (twice longer than wide),* the stigmal longish and clavate (subequal to the marginal), the postmarginal indistinct and little developed; the oblique, hairless line present. Abdomen short, triangular, about as long as the thorax, concave above, the ovipositor very slightly extruded, the hypopygium not prominent. With the habitus of *Parencyrtus* Ashmead. Antennæ 11-jointed, the club 3-jointed.

Male differing in the comparatively small, widely separated eyes, the ocelli in a subequilateral triangle, the very dense surface sculpture of the head and mesonotum and the more hairy antennæ with a solid and smaller club-joint (the antennæ 9-jointed).

1. ECHTHRODRYINUS DESTRUCTOR Perkins. Female; male. Genotype.

Length, 1 mm.

Head black, the mesonotum blue, metallic, in some aspects shining, very finely punctured and clothed with short black hairs; scutellum dull at base and with very dense, microscopic sculpture, its apex in some aspects shining and brilliantly green or blue and with some longish dark hairs; thorax beneath and the pleura, black, not or hardly metallic; abdomen bright metallic green on the basal portion. Wings hyaline, uniformly hairy except at base, the venation obscure brownish yellow. Antennæ sordid yellowish, clothed with short hairs. The whole of all the legs pale yellowish.

Habitat: Queensland. Parasitic on larvæ of *Neodryinus, Paradryinus* and so forth.

Type: Query.

2. ECHTHRODRYINUS XANTHOGASTER new species.

Female:—Length, 1.20 mm. With the habitus somewhat of *Hadronotus.*

Dark metallic blue, the abdomen honey yellow and margined nearly to tip from base with brownish. Wings subhyaline, the venation as figured for the genotype; oblique hairless line present. Legs and antenna pale yellow, the scape concolorous at proximal half, the pedicel above at base. Funicle hispid, the joints all shorter than the pedicel, 1-3 narrower and shorter than the others, quadrate; 4 a little longer than wide, 5 and 6 subquadrate. Pedicel not long. Club naked, subequal in length to the three preceding joints combined. Scape slightly compressed. Mandibles as figured for the genotype. Axillæ connate at meson. Fore wings with short marginal fringes, slightly stained about the marginal and stigmal veins. Body finely densely scaly, the mesonotum with scattered pin-punctures. Pubescence sparse. Sculpture of the axillæ finer. A spiracle on margin of abdomen just proximad of middle and which bears a few very long hairs. Apparently agreeing in other characters with the genotype. Hind tibial spur single, small. Frons narrow. Club very little wider than funicle.

Described from one female captured by sweeping in the jungle, July 24, 1913.

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 3101,* Queensland Museum, Brisbane, the specimen on a tag; the head, a fore wing and the anterior legs on a slide.

The species resembles *Coccidoxenus tricolor* Girault but the marginal and stigmal veins are longer and the color of the abdomen is different.

GENUS LEPTOMASTIX Foerster.

Synonym: *Calocerinella* Girault.

In the Australian species the head is lenticular, the costal cell extraordinarily narrow so that the marginal vein appears to be very elongate. Frons broad. Wings long, rather slender. Cheeks short, the eyes long. Scape long, slender, the bulla long. Stigmal and post-

* The parenthetical remarks are mine.

marginal vein moderately long, subequal. Lateral ocellus nearer the cephalic one than to the eye; axillæ meeting. Face convex, the antennæ inserted near the mouth border, 12-jointed with one very short ring-joint, the club 3-jointed, the funicle joints very long, 1 being over twice the length of the pedicel. Mandibles with nearly equal acute teeth. Propodeum with three median carinæ, the lateral ones curved. Fore wings with an oblique hairless line from the stigmal vein, the line being more or less parallel with the cephalic margin. Stigmal vein a little shorter than the postmarginal, both moderately long. Abdomen shorter than the thorax, compressed, pointed at apex the wings extending beyond it for some distance. Legs long. Corrected description.

1. LEPTOMASTIX TRIFASCIATUS (Girault). Female. Genotype of *Calocerinella.*

Length, 1.90 mm. Very dark metallic purplish, the proximal four tarsal joints and cephalic femora and tibiæ dusky yellowish, also the head and first two antennal joints. Finely alutaceous, the scutum also with small thimble punctures. Club not as long as funicle 1, its joints short, the region a third longer than funicle 6, the latter only about half the length of the first. Third band of fore wing much the longest, covering all of the distal third of the blade except around apical margin, which is clear; middle band with its distal margin crossing the apex of the stigmal vein, about equal to the proximal band. Propodeum and base of abdomen with silvery pubescence.

Habitat: Gordonvale (Cairns), Queensland. Forest, April 9, 1913.

Type: No. *Hy 3102*, Queensland Museum, Brisbane, a female on a tag, the head on a slide.

One male, forest, Gordonvale, April 16, 1913 (A. P. Dodd). In the male, the funicle joints subnodular, with 3-4 whorls of long hairs to each. Honey yellow except the purple brown of thorax and abdomen; antennæ 10-jointed, the club solid, hairy; funicle joints elongate, the first three longest, each subequal to the club. Two females, sweeping grass in forest, Capeville (Pentland), Queensland, September 12, 1914. Associated with forest grasses.

2. LEPTOMASTIX GUTTATIPENNIS new species.

Female:—Length, 1.75 mm.

Dull brown, the scutellum, axillæ and abdomen deep purplish black; scutum with a purplish tinge; hind legs (except tarsi) purple, also the antennæ except scape and pedicel. Nearly distal half of caudal wings dusky. Tips of hind tibiæ brown. Fore wings very deep purplish black, the extreme base hyaline and with the following perfectly clear areas—two obconical areas suspended from the submarginal vein, the first with pubescence, the second naked; a similar naked area from the costal margin just distad of venation, obliqued proximad so as to touch the apex of the stigmal vein; a somewhat smaller, similar area opposite, from caudal margin and obliqued proximad; and a smaller, naked, oval spot nearly central on the wing blade and a little distad of the disto-caudal angle of the area distad of venation. A subquadrate, half clear area under marginal vein between it and the hairless line. Postmarginal vein shorter than the stigmal. Costal cell exceedingly narrow. Head densely, polygonally scaly, lenticular. Funicle 1 longest, somewhat over thrice the length of the pedicel, 2 a little shorter, 3 and 4 subequal, each a little shorter than 2; 6 somewhat over thrice longer than wide. Resembles structurally *trifasciatus.* Thorax sculptured like the head but the areas smaller. Axillæ with a carina between them. Scutum with greyish pubescence. Club joints somewhat longer than wide. Two hind tibial spurs, one very short.

Described from one female caught in forest, April 20, 1914.

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 3103*, Queensland Museum, Brisbane, the specimen on a tag; head, fore wings and hind tibiæ on a slide.

3. LEPTOMASTIX TRIFASCIATIPENNIS new species.

Female:—Length, 2.15 mm.

Similar to the original description of *trifasciatus* but the pronotum is also golden yellow except across cephalic and caudal margins and down the meson narrowly; propleura golden yellow. Middle tibiæ in both species yellowish. Axillæ with a carina between them in both species and the scutum bears short silvery pubescence. In this new species maxillary palpi 4-jointed, hind tibial spurs double, the two white stripes on fore wing nearly equal in length (proximo-distad). Proximal margin of third stripe triangularly produced.

From one female caught by sweeping forest, May 27, 1914.

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 3104*, Queensland Museum, Brisbane, the specimen on a tag with type *trifasciatus*; head, fore wing and hind leg on a slide.

4. LEPTOMASTIX AURATICORPUS new species.

Female:—Length, 1.35 mm.

Bright golden yellow, the flagellum (excluding pedicel) and a conspicuous spot on the thoracic pleurum caudad, jet black. Bullæ and dorsal edge of scape dusky black, the former long; scape extending to tip of vertex; pedicel twice longer than wide; funicle 1 six (or more) times longer than wide, twice the length of the pedicel, 3 and 4 subequal, a little shorter than 1 or 2, 6 a little longer than the pedicel; club not as long as the scape. Fore wings hyaline but distinctly embrowned along each margin (all of caudal margin narrowly except at each end and the cephalic margin more broadly from venation to cephalo-distal apex); fore wings somewhat over thrice longer than wide. Frons and face coarsely scaly reticulate; thorax more finely so, the scutum with numerous, minute, setigerous punctures. Axillæ very narrowly separated by a short, narrow carina (same in *trifasciatus*); propodeum without a median carina. Propodeum and base of abdomen naked, not with silvery pubescence as in the genotype. Marginal vein normal, about three and a half times longer than wide, a little longer than the stigmal vein which in turn is a little longer than the postmarginal. Costal cell very narrow. Head (cephalic aspect) a little wider than long, the eyes large, the cheeks only about a fourth the length of the eyes; frons broad; lateral ocelli about as far from the cephalic ocellus as from the eye margins; face convex, head lenticular, the scrobes very short. Mandibles with two small acute teeth. Abdomen as in *Epidinocarsis*, shorter than the slender fore wings but as long as the thorax. Hind tibial spurs double, very unequal.

From one female taken by sweeping in forest, August 30, 1913 (A. P. Dodd).

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 3105*, Queensland Museum, Brisbane, the specimen on a tag; head and fore wings, middle and hind tibiæ on a slide with fore wing of genotype.

5. LEPTOMASTIX BICOLORICORNIS new species.

Female:—Length, 1.80 mm. Wings shorter than the abdomen which is longer than the rest of the body and acute.

Dark metallic purple, the wings hyaline, the coxæ concolorous, the legs yellowish brown except the femora above and near base. Antennæ black, scape at apex broadly, a silvery white stripe along each side of scape, proximal fifth of funicle 1 and proximal four fifths of funicle 2, silvery white. Pedicel over thrice longer than wide at apex, somewhat over half the length of funicle 1 which is longest, somewhat longer than 2 or 3 which are elongate and subequal; funicle 6 somewhat less than twice longer than wide, somewhat shorter and thicker than the pedicel. Head with very fine surface sculpture and distinct, moderate-sized thimble punctures. Body similar to that of the genotype except that the abdomen is longer than the thorax, the propodeum lacks the median carinæ and the scutellum and scutum also bear the silvery pubescence. Thorax minutely densely sheened; scutum with short silvery pubescence, the

punctures evident, the pubescence a little less conspicuous than that of the scutellum. Hind tibial spurs unequal. Postmarginal vein a little longer than the stigmal, subequal to the marginal which is about two and a quarter times longer than wide. Funicle 6 twice longer than wide. Head finely reticulated, with scattered thimble punctures.

From two females captured by sweeping in forest, December 19, 1911 and March 21, 1912.

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 3106*, Queensland Museum, Brisbane, a specimen on a tag; head, fore wing and a hind tibia on a slide.

6. LEPTOMASTIX NIGRITEGULÆ new species.

Female:—Length, 1.80 mm.

Like *auraticorpus* but the pedicel is only a little longer than wide at apex, the body is wholly golden except the large black tegulæ, funicle 1 is over twice the length of the pedicel, 6 distinctly longer than the pedicel; margins of fore wing embrowned cephalad from apex of marginal vein to apical bend, caudad barely at all; fore wings not quite thrice longer than wide. Propodeum short at the meson. Marginal vein a little shorter than the postmarginal, a little longer than the stigmal. An obscure brown streak on fore wings disto-caudad, a little away from the margin. Costal cell narrow but distinct. Cheeks about a third the length of the long eyes. Dorso-lateral margins of abdomen forming narrow carinæ. Caudal tarsi blackish. Otherwise about as the description of the named species. Hind tibial spurs not seen.

From one female caught September 15, 1914 in grass in forest.

Habitat: Capeville (Pentland), Queensland.

Type: No. *Hy 3107*, Queensland Museum, Brisbane, the specimen in alcohol with type of *Atoposoma unguttatipes*.

Genus ANUSIA Foerster.

1. ANUSIA FLAVA new species.

Male:—Length, 1.25 mm.

Honey yellow, fuscous in places, wholly wingless. Pedicel minute; scape, funicles 1 and 2 and proximal part of 3 reddish brown, the pedicel pale yellow; rest of antenna and the ventral margin of the flat scape, black. Pronotum conical, broad and long, nearly twice longer than the scutum and together with the latter pubscent. Axillæ meeting at meson, the triangular scutellum finely longitudinally striate. Propodeum with an inverted V-shaped median carina, the arms diverging from base and separated there. Abdomen glabrous except the rather long second segment and segments 3-5 united, the latter transverse; segment 6 occupying the rest of the surface of the abdomen or over half, much over twice the length of 2, at base laterad with a spiracle which bears very long setæ; base of abdomen fuscous. Mandibles small, with two acute teeth. Head held nearly horizontally (face dorsad), narrowed cephalad of the eyes as though the cheeks were absent. Funicle 1 much the longest, the antennæ 11-jointed, no ring-joint. Frons moderately broad. Ant-like.

Habitat: Gordonvale (Cairns), Queensland. Jungle, July 24, 1913 (A. P. Dodd).

Type: No. *Hy 3108*, Queensland Museum, Brisbane, the specimen on a tag, the head on a slide.

Genus PARANUSIA Girault.

Cephalic aspect, head rounded, the antennæ inserted below the middle of the face, much below the eyes, but not near the clypeus, widely separated, the scape very long, extending far beyond the vertex, cylindrical, the flagellum compressed, clavate, the funicle joints transverse and short, much wider than long, the club solid, no ring-joint, the antenna 9-jointed; pedicel very short. Lateral ocelli distant from the eye margins; a distinct transverse suture across face

above antennal insertions. Axillæ not quite meeting inwardly. Mandibles bidentate, both teeth strong. Abdomen short, produced ventrad, the ovipositor usually projecting some distance beyond, naked and slender. Fore wings simple, infuscated, with an oblique hairless line from the junction of the marginal and stigmal veins, the marginal vein rather long but a third shorter than the postmarginal, the stigmal well developed slightly shorter than the postmarginal. Legs normal, the posterior tibiæ with one spur, the intermediate tibial spur not enlarged. Mandibles appearing acute or edentate from above (their lateral aspect). Labial palpi 3-jointed, the maxillary 4-jointed.

The cylindrical scape, cephalic characters, antennal segmentation and the long postmarginal vein serve to distinguish this genus.

1. PARANUSIA LONGISCAPUS Girault. Female. Genotype.

Length, 1.75 mm.

Submetallic greenish black, the face below the transverse suture, the mesoscutum and axillæ dark reddish; legs black, the tarsi lemon yellow; fore wings stained irregularly, the venation fuscous. Sides of thorax reddish; antennæ black. Head and thorax impunctate, finely alutaceous. Pedicel longer than any of the funicle joints, of which the third is longest, all widening distad and prolonged at one side from apex, the sixth four times wider than long; club somewhat over half the length of the funicle.

Described from eleven specimens on two cards (one pin) and mounted with ants upon which they are probably parasitic.

Habitat: Murray Bridge, South Australia.

Type: I. 1290, South Australian Museum, the above specimens and a slide bearing head and fore wing.

Genus EPANUSIA Girault.

Like *Anusia* Foerster but the marginal vein not short, over twice longer than wide, the postmarginal vein not much shorter than the marginal, somewhat longer than the stigmal; the lateral ocelli are far distant from the eye margins, the frons is moderately broad, with a very fine scaly sculpture and scattered pin-punctures. The wings are perfect and banded. Otherwise the same. Fore wing with a long hairless line back from stigmal vein and which curves, proximad. Axillæ slightly separated. Robust.

1. EPANUSIA BIFASCIATUS Girault. Female. Genotype.

Length, 2.10 mm.

Dark blue, submetallic, the scutum and propodeum with short white pubescence, the scutellum bright orange, the axillæ and pronotum (less so) suffused with orange; head also orange, the vertex darker. Fore wings with two narrow black bands, the first across from the marginal and postmarginal veins, subcrescentic, its distal margin concave; the second across from the bend of the submarginal vein, both fainter near caudal margin; the blade distad of the apex of the postmarginal vein densely, finely, uniformly ciliate and lightly embrowned; venation brown-black; stigmal vein nearly at right angles to the marginal. Legs concolorous, except cephalic femora, all knees and tarsi which are brownish. Antennæ foliaceous, including the scape, greatly compressed, concolorous, the 3-jointed club, however, conico-cylindrical, the sixth or distal joint of the funicle subquadrate but still flat, the pedicel triangular, minute, the first funicle joint obconic, much the longest of the funicle, the next three joints distinctly much wider than long; no ring-joint, eleven antennal joints. Scutum green, body finely sculptured. Scutum with a short silvery pubescence.

Habitat: Gordonvale (Cairns), Queensland. Forest, September 3, 1913.

Type: No. *Hy 3109,* Queensland Museum, Brisbane, the female on a tag, the head and a fore wing on a slide.

A second specimen, type locality, May 29, 1912 in forest at 1,500 feet.

PSEUDANUSIA new species.

Female:—Head with the vertex perfectly flat as viewed from above and long, the face inclined ventro-caudad, the antennæ inserted below the ventral ends of the eyes, the scape and pedicel foliaceously dilated, the funicle compact, compressed, its six joints transverse-linear and subequal, together no longer than the 3-jointed cylindrical club which is as wide as the funicle and as long. Mandibles small, the second tooth broadly truncate. Marginal vein punctiform, the postmarginal barely developed, the stigmal much longer than it, moderately long. Fore wings with fuscous rays. Axillæ barely separated. Hind tibiæ with one spur. Abdomen short, depressed, cordate. Allied with *Epanusia* but the antennal joints are not greatly flattened. Scutellum convex at apex. Frons moderate.

1. PSEUDANUSIA PIA new species. Genotype.

Female:—Length, 1.20 mm. Dark metallic green, the vertex white and with a black stripe along its center. Legs and antennæ concolorous, the middle tibiæ suffused with yellowish, the tarsi yellow except the distal joint; caudal leg compressed, the middle tibiæ slender. Fore wings beautifully infuscated with brown (in rays); a long-ovate clear area under the submarginal vein proximad of the bend and a shorter and broader one distad of the bend; at the disto-cephalic angle of this and just under the marginal and base of stigmal veins is a jet black spot. Just distad of the venation the blade is clear with the exception of the cephalic oblique ray to be described; in a little less than the distal half of the blade, there are two prominent, diverging, broad, fuscous rays, the cephalic one longest, its caudal margin just reaching the distal blade margin a little caudad of extreme apex; the shorter ray runs more nearly distad to the caudal margin; these two rays converge proximad but do not quite meet and are separated from the convex margin of the proximal infuscation by rather narrow clear spaces. Cephalic margin of fore wing changing angle at the marginal vein, the wing with a broken appearance. Club joints all wider than long, the first of them longest. Oblique hairless line of fore wing not very distinct, limited proximad by a single line of cilia but there are more cilia farther proximad.

From one female taken from a window in February.

Habitat: Ingham, Queensland.

Type: No. *Hy 3110*, Queensland Museum, Brisbane, the specimen on a slide.

ANAGYRODES new genus.

Female:—Like *Anagyrus* Howard but more robust, the pronotum large, over half the length of the scutum, the mandibles acute and with two acute teeth, the head lenticular. Marginal vein punctiform, the stigmal long, curved, the postmarginal elongate, about twice the length of the stigmal. Second segment of abdomen occupying about a third of the surface, segment 8 over half the length of the second, the others moderately short. Hind tibial spurs double. Frons moderately broad, the cheeks over half the length of the large eyes. Distal or fourth joint of maxillary palpus as long as the others combined, 3 shorter than 2, 1 very small.

1. ANAGYRODES MAXIMUS new species. Genotype.

Female:—Length, 2.60 mm. Deep orange yellow, the head, pronotum, scutum, axillæ except lateral margin, scutellum (triangularly) except lateral and distal margins and a little more than distal half of abdomen (distad of segment 3) steel blue. Club blackish. Head and thorax densely scaly, the head with punctures scattered over it. Fore wings with the distal third dusky, the duskiness also projecting proximad along the midlongitudinal line to the obliqued caudal margin about opposite the submarginal vein at its distal third. Venation yellow. Scape cylindrical, the funicle cylindrical, the 3-jointed club not much wider; joints 1 and 2 of funicle somewhat longer than wide, subequal, longest, longer than the pedicel, the

distal funicle joint a little wider than long. Antennæ 12-jointed with a short ring-joint. Scutum and scutellum with scattered obscure, setigerous punctures. Hairless line of fore wing with over a dozen lines of coarser cilia proximad of it. Axillæ broadly joined, with a carina between them. Type re-examined.

Described from one female captured by sweeping in jungle, June 10, 1913 (A. P. Dodd).

Habitat: Little Mulgrave River, Gordonvale, Queensland.

Type: No. *Hy 3111*, Queensland Museum, Brisbane, the specimen on a tag; head, fore wing and a hind tibia together on a slide.

2. ANAGYRODES GIGANTEUS new species.

Female:—Length, 3 mm. Larger than the genotype.

Differing from *maximus* in having the entire thorax, a large part of the maxillary palpi, the middle tibial spurs (only tip of same in *maximus*), distal half of abdomen dorsad and a broad band around caudal tibia at proximal third, caudal tibiæ dorsad except at base and a narrower stripe across caudal tibia slightly before tip, metallic blue. Also, the infuscation of the fore wing is different in that its proximal margin is straight and across from the base of the stigmal vein. The latter is also longer, a little over half the length of the elongate postmarginal; the hind tibiæ are a little more compressed. Head with numerous pin-punctures, the scrobes somewhat longer than wide. Thorax sculptured as in the genotype but the pronotum is shorter, only about a fourth the length of the scutum while the axillæ are separated a short distance distinctly yet with a short carina between them. Joints 3-6 of funicle each a little wider than long. Otherwise like the genotype.

From one female caught in jungle, June 4, 1913.

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 3112*, Queensland Museum, Brisbane, the female on a tag; head, fore wing and hind tibiæ on a slide.

Even after careful examination, the mandibles of both species seem edentate; they are shaped like those of the Arrhenophagini yet a second and shorter minute tooth is undoubtedly present but very difficult to discover. The hind tibial spurs are short and stout. The ovipositor in death is curved ventro-proximad from about the middle of the venter and the valves are inconspicuous.*

Genus CRISTATITHORAX Girault.

The same as *Cheiloneurus* except in the mandibles.

1. CRISTATITHORAX HUGOI new species.

Female:—Length, 1.30 mm.

Stigmal vein tolerably long, the frons very narrow, the eyes convergent, the fore wings infuscated but without fuscous rays. Head longer than wide, the scrobes forming a semicircle. Antennæ 12-jointed, the club enlarged, 3-jointed, the funicle joints all short, wider than long, less than half the length of the pedicel. Marginal vein twice the length of the stigmal, the postmarginal very short; oblique, hairless line present. Axillæ rather broadly meeting, the scutellum with a tuft of hairs at apex. Face obtusely convexed between the antennæ but there is no distinct carina there. Somewhat like *Echthrodryinus* Perkins but the head is longer, the scrobes are not elongate, the narrow front is densely punctate, the marginal vein much

* The abdomen in this genus is proctotrypoid, the venter undivided, the ovipositor issuing from the apex. Other encyrtid genera have this anomalous structure (e.g. *Eucomys*) which does not seem to have been noticed before.

longer, the wings infuscated and the scutellum with a tuft of hairs, the antennæ with a ring-joint and ringed with white. Like *Chrysopophagus* Ashmead but the latter bears tridentate mandibles and the head differs. Scape only very slightly compressed.

Dark metallic purplish, the scutellum green, the thorax densely, finely shagreened or scaly; antennæ dusky yellowish, the distal three funicle joints white, the club black, the two distal funicle joints longer and wider. Club obliquely truncate. Legs concolorous except a spot below knees on tibiæ, distal two thirds of hind tibia, distal half of other tibiæ and the tarsi which are yellow. Fore wings deeply embrowned from a little proximad of the origin of the marginal vein nearly to apex where there is a narrow apical clear portion. Nearly all of second femora pale yellowish except a concolorous band around before apex, the other femora yellowish near base.

Described from one female captured by sweeping in the forest, April 13, 1912.

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 3113*, Queensland Museum, Brisbane, the above specimen on a tag, the head on a slide.

The species is respectfully dedicated to Victor Hugo.

2. CRISTATITHORAX BIDENTIMAXILLÆ new species.

Female:—Length, 0.92 mm. With the form of *Cheiloneurus purpureiventris* Girault.

Dark metallic green the head orange yellow, the legs whitish except the concolorous caudal femora and tibiæ; caudal tibiæ white at tip. Antennæ white, the club black; pedicel and funicles 1 and 2 dusky. Scutum with close silvery hispidescence except along cephalic margin. Pedicel subconcolorous with body. Second tooth of mandible truncate, broad, only two teeth. Fore wings embrowned from origin of marginal vein distad nearly to apex, deeper under the marginal vein, clear at apex, the latter distinctly longer than the stigmal vein which is longer than the postmarginal which is little developed. Scutellum with the black tuft of bristles. Scape curved not dilated, the short pedicel longer than any of the funicle joints all of which are transverse, 6 largest, thrice the size of 1 or 2. Thorax densely shagreened, the axillæ smoother, coppery, very slightly separated.

From one female taken in forest, November 30, 1913.

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 3114*, Queensland Museum, Brisbane, the female on a slide.

Later, one female reared from leaf-hopper eggs on gum, November 27, 1911, Gordonvale.

3. CRISTATITHORAX MANDIBULARIS new species.

Female:—Length, 0.80 mm. Same as the preceding but dark metallic purple, the axillæ, scutellum, neck of prothorax orange yellow, the pronotum honey yellow, the abdomen dull brown, margined very narrowly all around with purplish and with a dark purplish stripe across base. Sides and venter of thorax yellowish. Legs pale yellow, the hind legs purplish except the tarsi. Otherwise about the same. Segment 3 of abdomen apparently occupying more than half of the surface; extreme apex of abdomen silvery white. Head (at least above the inflexion) densely finely punctate. Ocelli in an equilateral triangle. Club somewhat shorter than the funicle. Scutum same length as in *mackayensis*.

From one female caught November 30, 1913 by sweeping in forest.

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 3115*, Queensland Museum, Brisbane, the specimen on a tag.

4. CRISTATITHORAX QUADRICOLOR new species.

Female:—Length, 1.60 mm.

Very similar to *Cheiloneurus gonatopodis* Perkins but the head wholly lemon yellow, also the scutellum, the axillæ and scutum except the purplish caudal part, deep reddish orange.

Also funicle 6 is black as well as the club. A stripe across the honey yellow abdomen at base, margins of abdomen centrally, propodeum, the part of the mesothorax just laterad of scutellum and a concave curved stripe across abdomen at about middle about in the shape of a U, purplish. Fore wings embrowned margin to margin from about the marked concave bend of the submarginal vein to apex but obscurely clearer at apex centrally, distinctly clear in a triangular spot just distad of postmarginal vein and a larger oblong area opposite at caudal margin. Discal cilia proximad of hairless line about two lines, coarser and blacker than the other ciliation. Vertex shagreened. Segment 3 of abdomen occupying more than half the surface.

From one female caught sweeping in forest, June 27, 1913.

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 3116*, Queensland Museum, Brisbane, the specimen on a tag.

5. CRISTATITHORAX VIRIDISCUTUM new species.

Female:—Length, 1.45 mm.

Like *mackayensis* but a little stouter, the abdomen broader, less pointed, the middle of the propodeum visible and yellowish, the metallic green band across the base of abdomen narrow and only a little purplish on abdomen above centrally. Legs all white except caudal knees and a dusky band above and one below middle knees. The scutum is distinctly longer. Scape rather greatly swollen its entire length, the club dusky, much enlarged, longer than the funicle. Funicle and pedicel dusky, scape yellow. Scape hardly more than a half longer than broad. Frons four times as wide as an ocellus. Funicle 6 longest and widest. Fore wings about as in *mackayensis* and so the mandibles. Axillæ slenderly joined not distinctly so as in *mackayensis* and with a short carina between as in that species. First five funicle joints annular.

From one female caught August 12, 1913, sweeping forest (A. P. Dodd).

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 3117*, Queensland Museum, Brisbane, the female on a tag, the head and a fore wing on a slide.

6. CRISTATITHORAX NOVIMANDIBULARIS new species.

Female:—Similar to *mandibularis* but honey yellow, the axillæ distinctly separated for some distance, the pronotum also purple. Middle legs with a dusky spot just below knee. Frons somewhat narrower. Abodomen mostly all purplish.

From two females caught crawling over a seashore plant infested with unarmored coccids, October 30, 1911.

Habitat: Port Douglas, Queensland.

Types: No. *Hy 3118*, Queensland Museum, Brisbane, the specimens on a tag; heads on a slide.

7. CRISTATITHORAX MACKAYENSIS new species.

Female:—Length, 1.30 mm. Short, rather stout.

Orange yellow; scutum dark metallic green; propodeum and a rather broad stripe across base of the abdomen washed with the same color; knees, caudal legs except articulations and tarsi and ventral edge of the somewhat swollen scape, dusky. Pedicel at base above, club, first two funicle joints and part of the third, black. Tuft of hairs on scutellum black, the sclerite finely longitudinally scaly striate; axillæ broadly joined, transversely scaly reticulate. Ocelli in a nearly equilateral triangle, the frons moderately narrow. Scutum with short silvery pubescence. Pedicel distinctly longer than any of the funicle joints, all of the latter plainly wider than long, 3 and 4 shortest. Second tooth of mandible subtruncate, the third tooth thus not formed. Fore wings embrowned to apex from base of marginal vein but the apex is

hyaline and also the spot just distad of venation at cephalic margin and the larger one opposite to it. Marginal vein twice or more the length of the short stigmal, the latter a little longer than the postmarginal.

From one female caught October 20, 1911, by sweeping foliage of lantana and other bushes in a field near town.

Habitat: Mackay, Queensland.

Type: No. *Hy 3119*, Queensland Museum, Brisbane, the specimen on a tag.

8. CRISTATITHORAX VINCULUM new species.

Female:—Differs from *pasteuri* as follows: The frons is a little broader, the distal three funicle joints are white, the infuscation of the fore wing does not proceed quite so far distad, the apex of the wing more broadly hyaline, the tip of the pedicel is white and of all tibiæ and the first two pairs of knees are much more distinctly white. Otherwise the same. Differs from *bidentimaxillæ* in having the cheeks more distinctly metallic, the scape black, the first three funicle joints distinctly black, the legs black (except as noted; there is a white spot dorsad on hind tibiæ in both species), the fore wing more deeply infuscated. Otherwise the same.

From one female taken May 9, 1914 by sweeping sand-ridges near coast, forest (A. P. Dodd).

Habitat: Chindera (Tweed River), New South Wales.

Type: No. *Hy 3120*, Queensland Museum, Brisbane, the specimen on a tag; head and caudal tibiæ on a slide.

9. CRISTATITHORAX PASTEURI new species.

Female:—Length, 1.10 mm.

Dark steel blue, the scutellum dark green, the head orange yellow but the face suffused with dusky, the cheeks ventrad of the eyes dark metallic blue, also the ventral edge of the head narrowly (cephalic aspect). Antennæ and legs concolorous, the tarsi white. Fore wing sooty from the origin of the marginal vein distad to within a short distance of apex which is thus left broadly hyaline; the proximal margin of the infuscation is straight and coterminous with the discal ciliation. Marginal vein over four times the length of the stigmal which is short but longer than the postmarginal. About five lines of cilia proximad of the hairless line. Scape compressed. Pedicel much longer than any of the funicle joints which are wider than long, 6 largest. Club much wider than and nearly as long as the funicle. Frons densely punctate, narrow. Second tooth of mandible broadly truncate. Scutum with short silvery pubescence, minutely, densely scaly, the scutellum densely punctulate. Axillæ acute mesad, there a little separated. Tegulæ reddish brown. Hind tibial spur single. A yellowish lunula (laterad) just cephalad of tegula.

Described from one female caught in forest, April 14, 1914 (A. P. Dodd).

Habitat: Cloncurry, Queensland.

Type: No. *Hy 3121*, Queensland Museum, Brisbane, the specimen on a tag; head, a caudal tibia and a fore wing on a slide.

Genus CALOCERINELOIDES Girault.

Like *Calocerinus* Howard but the marginal vein punctiform, the wings hyaline, the axillæ not quite meeting inwardly, the sixth funicle joint elongate but not much longer than the other five joints, distinctly not twice longer than their united length, funicle joint 5 only half the length of the preceding part of the funicle; branches long, subequal, clavate, on funicle joints 2 to 5. Antennæ 9-jointed, inserted slightly below the middle of the face, the club solid, no ring-joints. Stigmal vein slender, twice the length of the short postmarginal. Second tooth of mandible broadly emarginate.

1. CALOCERINELOIDES RAMOSA Girault. Male. Genotype.

Length, 1.50 mm. Steel blue, the abdomen metallic greenish; head and thorax polygonally shagreened, the abdomen likewise but smoother, the axillæ still smoother, scaly. Legs yellowish brown; the antennæ dusky brownish. Club about half the length of the sixth funicle joint.

Habitat: Murray Bridge, South Australia.

Type: I. 1470, South Australian Museum, Adelaide.

EPANAGYRUS new genus.

Male:—Agrees with *Anagyrus* Howard but the antennæ are only 10-jointed with one very short ring-joint, the club solid and not much longer than one of the funicle joints. Second mandibular tooth broad and truncate. Scape foliaceously dilated, the antennæ inserted very widely apart, under the mesal half of the eyes, the head subquadrate. Lateral ocelli a little separated from the eyes. Marginal vein quadrate, the postmarginal nearly twice longer than it, three fourths the length of the stigmal. Oblique hairless line present. Head and thorax densely finely scaly punctate, the scutum and scutellum with scattered obscure thimble punctures; axillæ finer, wide, nearly meeting inwardly. Punctures on scutum numerous, sparse on scutellum. Abdomen depressed above, triangular, sculptured like the head but not quite as densely, mostly scaly, as long as the thorax. Pronotum transverse. Legs normal; hind tibial spurs double.

1. EPANAGYRUS PUNCTATISCUTUM new species. Genotype.

Male:—Length, 1.55 mm.

Bright metallic green, the scutellum coppery, rest of body (except the bright green head), nearly black. Wings hyaline. Scutum and scutellum with slight down. Axillæ, legs except hind coxa and hind tibiæ (dorsad only) and the scape bright lemon yellow. Pedicel short, a little longer than wide; funicles 1-3 subcompressed, a little wider than long, larger than the pedicel; joint 4 more rounded, 1 and 7 cylindrical ovate, hence longest, the club the same shape but larger. Scape short, with a metallic green stripe along and just below dorsal edge. Marginal fringes of fore wing very short, dense. Middle tibial spur stout, long.

From one male labelled "53, National Mus. Victoria. Out of galls on gum leaves, 1-11-10, F. Spry."

Habitat: Melbourne, Victoria.

Type: No. *Hy 3122,* Queensland Museum, Brisbane, the male on a card; hind leg and head on a slide.

ECTROMOMYIELLA new genus.

Male:—Head (cephalic aspect) rounded, the face inflexed, the frons moderately broad, the cheeks as long as or longer than the eyes, the antennæ inserted on the middle of the face, 6-jointed including a very short ring-joint, the club solid, the first funicle joint elongate, longer than the rather long club (about six times longer than wide), the second funicle joint long but only about half the length of the first; scape short, simple. Mandibles small, bidentate, the second tooth truncate. Hind tibial spur single, small. Axillæ a little separated at meson. Marginal vein about thrice longer than wide, the stigmal and postmarginal veins much shorter, the former a little the longer, slightly longer than wide. Oblique hairless line present. Pronotum transverse. Scutellum hemispherical, somewhat shorter than the scutum. Abdomen triangular, shorter than the thorax. A spiracle on abdomen at proximal third bearing long setæ.

1. ECTROMOMYIELLA ARTICULUS new species. Genotype.

Male:—Length, 0.52 mm.

Dark metallic green, the wings hyaline, the antennæ, face and middle legs (except a band around middle tibiæ just below knees), knees, tips of tibiæ and tarsi of caudal legs yellowish

white. Hairless line of fore wing with about 5 or 6 lines of coarser cilia proximad of it. Thorax finely scaly. Fore wing pyriform, not especially broad, the marginal fringes short.

From one male taken by sweeping forest, January 8, 1913.

Habitat: Capeville (Pentland), Queensland.

Type: No. *Hy 3123*, Queensland Museum, Brisbane, the specimen on a slide.

PSEUDECTROMA new genus.

Female:—Short and slender, the abdomen conic-ovate, a little longer than the rest of the body, the ovipositor and its valves plainly extruded for a third of the abdomen's length. Distal four tarsal joints very short; first tarsal joint of cephalic legs half shorter than the same of other legs. Scutum wider than long; the axillæ barely separated. Fore wings densely ciliate discally, with an oblique hairless line from the stigmal vein, the marginal vein quadrate, the stigmal short and broad, longer than the marginal, the postmarginal very short; fringes of margin short. Head somewhat wider than long. Mandibles narrow, with two equal acute teeth. A spiracle on each lateral margin of abdomen a little beyond middle and which bears long setæ from pores. Antennæ 9-jointed; five funicle, two club joints, the first shorter, the articulation not very distinct, no ring-joint, the flagellum clavate but not compressed, the funicle joints all very much wider than long, 5 much the widest, 1 narrowest; pedicel obconic, two thirds or more the length of the funicle. Scape somewhat compressed. Antennæ inserted at the base of the mandibles. Head a little wider than long. Middle tibial spur normal for the family. Frons broad.

1. PSEUDECTROMA AURICORPUS new species. Genotype.

Female:—Length, 0.65 mm.

Golden yellow, the wings subhyaline; abdomen with three narrow dusky stripes across, the first complete, at proximal third, the second and third abbreviated laterad, on distal third; also between the spiracles a dusky crescent (just caudad of first cross-stripe). Propodeum suffused with dusky. Valves of ovipositor black. Club ovate, large, longer than the funicle. Fore wing with indefinite infuscation along the oblique hairless line. Hind wing acute, the part distad of venation very short, about ten lines of fine discal cilia.

Described from one female captured by sweeping second forest growth and in grass, January 8, 1914.

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 3124*, Queensland Museum, Brisbane, the female on a slide.

SCELIOENCYRTUS new genus.

Female:—Form slender, depressed, the abdomen much like that of the genus *Phanarus* of the *Proctotrypoidea* but broad at base. Head depressed, circular, the face directed dorsad as in the scelionid genus *Aradophagus*, the antennæ inserted at the base of the acute bidentate mandibles, 10-jointed, the club 2-jointed, no ring-joint. Middle tibial spurs not stout, small. Fore wings slender, with an oblique hairless line from the stigmal vein, the marginal vein punctiform, the stigmal short but distinct, twice the length of the very short postmarginal. Abdomen long, obtusely conical, the ovipositor very short, inserted near the tip, the abdomen longer than the rest of the body. Axillæ not widely separated. Body finely sculptured. Frons wide. Cheeks a little over half the length of the eyes.

1. SCELIOENCYRTUS NIGRICLAVUS new species. Genotype.

Female:—Length, 1.10 mm.

Honey yellow, the wings hyaline, the antennæ dusky yellowish, the club jet black. Fore wings densely finely ciliate, the marginal fringes longer than usual, a fifth the greatest wing width. Scape (excluding bulla) shorter than the club, the latter ovate, wider than the funicle. Pedicel

longer than any of the funicle joints of which 6 is longest, a little wider than long, 1 subquadrate, small, the others small, wider than long. Funicle 6 over twice the size of 1 which is subequal to the others or nearly.

From one female caught in forest, August 13, 1913.

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 3125*, Queensland Museum, Brisbane, the female on a slide.

2. SCELIOENCYRTUS TRICOLOR new species.

Female:—Similar to the genotype but the frons is narrower, the shaft of the scape somewhat longer, the scape and pedicel dusky, pale beneath (the former) and at tip (the latter); first three funicle joints blackish, the distal three white. Also the fore wings are broader, very much more finely ciliate discally and the marginal cilia are very short, not distinctly longer than usual. Shaft of scape nearly twice the length of the pedicel (not distinctly less than that). The body is golden yellow. Axillæ rather broadly joined. Funicles 1-5 subequal, 6 distinctly longer.

From one female captured in forest, December 29, 1912 (A. P. Dodd).

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 3126*, Queensland Museum, Brisbane, the specimen on a slide with the type of *Coccophagus boswelli* Girault.

3. SCELIOENCYRTUS KEATSI new species.

Female:—Length, 1 mm.

Similar in all respects to *nigriclavus* but the whole antennæ are jet black and the body is marked with dusky black as follows: Proximal three fourths of abdomen except near base, cephalic margin of the triangular scutum (the blunt apex of the triangle cephalad), pronotum, caudal margin of scutum, propodeum and a round spot in center of scutellum just before apex. Both wings are somewhat broader. Body finely sculptured.

From one female caught April 16, 1914 by sweeping in forest

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 3127*, Queensland Museum, Brisbane, the specimen on a slide.

Dedicated to the poet Keats.

HOLANUSIA new genus.

Female:—In the table of genera runs to *Epanusia* Girault but differs in not having the flagellum foliaceous and greatly compressed, only the scape being so. Frons moderately broad, a little over thrice the diameter of the large cephalic ocellus. Cheeks two thirds the length of the eyes. Mandibles with two acute teeth. Marginal vein about twice longer than wide, subequal to the stigmal vein, the postmarginal vein a little shorter. Hind tibial spur single. Eyes hairy. Thorax rather much convexed, no longer than the abdomen which is conic-ovate, depressed, the ovipositor not exserted. Axillæ not separated. Marginal fringes of fore wing short, the oblique hairless line present. Scrobes evident.

1. HOLANUSIA CONVEXUS new species. Genotype.

Female:—Length 1.10 mm.

Black, the abdomen shining dark purplish, the wings hyaline excepting for a brownish spot against the marginal vein; funicle 1 silvery white. Knees, tips of tibiæ and tarsi yellowish. Head and thorax very finely, densely scaly, the scutum and scutellum with a soft, non-dense yellowish pubescence from obscure punctures. Club three fourths the length of the funicle; pedicel distinctly longer than any of the funicle joints which are wider than long but not annular, widening distad, 5 and 6 being distinctly the longest, 1 narrowest, somewhat wider than long, 3 shortest. Flagellum clavate, the club obliquely truncate.

From one female caught sweeping in jungle, February, 1914 (A. P. Dodd).

Habitat: Babinda, Queensland.

Type: No. *Hy 3128*, Queensland Museum, Brisbane, the female on a tag; head, pair of wings and a hind tibia on a slide.

BÆOANUSIA new genus.

Female:—Runs to *Holanusia* Girault but the club is greatly enlarged, nearly twice the length of the funicle, the joints of the latter subannular. Also the second tooth of the mandibles is broadly truncate, the hind tibial spurs are double, the marginal vein about thrice longer than wide, over twice the length of the stigmal which is not long and only somewhat longer than the postmarginal. The axillæ have a carina between them. Otherwise much the same. Frons moderately narrow, somewhat over thrice the diameter of an ocellus. Pronotum transverse. Ring-joint present. Scutum and scutellum not much unequal in length.

1. BÆOANUSIA MAGNICLAVA new species. Genotype.

Female:—Length, 1.30 mm.

Dark metallic blue-green, the axillæ and scutellum coppery, the wings hyaline; knees, tips of tibiæ and tarsi pale yellow; antennæ concolorous but funicle 6 is white, also the palpi. Head very densely punctate-scaly, also the thorax, the scutum with distinct short, white pubescence which contrasts with its background. Funicle joints each widening, 6 distinctly wider than 1 but all subequal in length. Pedicel barely longer than wide but much longer than any of the funicle joints. Cheeks subequal to the eyes. Propodeum and abdomen scaly. Hairless line of fore wing with about ten lines of coarser cilia proximad of it.

From one female taken by sweeping forest, January 8, 1913.

Habitat: Capeville (Pentland), Queensland.

Type: No. *Hy 3129*, Queensland Museum, Brisbane, the specimen on a tag; head, fore wing and a hind tibia on a slide.

2. BÆOANUSIA PERFUSCIPENNIS new species.

Female:—Length, 1.30 mm.

Differs from the genotype in that the frons is a half narrower, the scape much more dilated and the club somewhat narrower but as long. Dark metallic blue-green, the abdomen and legs metallic purple, the tarsi pale yellow, the antennæ wholly concolorous. Thorax densely scaly, the axillæ and abdomen smoother; axillæ with a carina between them. Scutum somewhat wider than long, a little shorter than the scutellum; scutum with scattered setigerous punctures, the pubescence not as distinct as in the genotype. Fore wings very deeply embrowned but clear around apex, the infuscation deeper under the venation; a white, transverse dash just cephalad of venation. Much discal ciliation proximad of hairless line. Funicle and club hispid. Otherwise about as in the genotype. Costal cell of hind wings extending to the hooklets.

From one female captured on edge of jungle, May 28, 1913.

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 3130*, Queensland Museum, Brisbane, the specimen on a tag; head hind tibia and a pair of wings on a slide.

3. BÆOANUSIA PERSIMILIS new species.

Like the genotype but the axillæ are a little separated and thus without the distinct carina between them. Otherwise the same or very nearly.

Dark steel blue, the scutellum dark coppery, the legs concolorous except on each side of knee, tips of tibiæ and tarsi which are white. Body densely scaly, the scutellum densely punctulate, the scutum with a fine silvery pubescence. Distal funicle joint white. Caudal femur black to knee. Axillæ a very little separated. Scutellum reaching base of abdomen. Hind

tibial spurs double. Face much inflexed, the scrobes forming a deep semicircle. Postmarginal and stigmal veins subequal. Compared with type body of *magniclava*.

From one female caught on sand-ridges, forest, May 15, 1914 (A. P. Dodd).

Habitat: Chindera (Tweed River), New South Wales.

Type: No. *Hy 3131*, Queensland Museum, Brisbane, the specimen on a tag; head, fore wing and hind tibiæ with slide type of *Zooencyrtus acutiventris* Girault.

ANUSOMYIA new genus.

1. ANUSOMYIA AURATISCUTUM new species. Genotype.

Female:—Length, 0.90 mm.

Dark metallic purple, the scutum and propodeum, venter and sides of thorax deep reddish orange; legs yellowish brown except the purple middle coxæ. Wings lightly stained throughout. Distal half of body of scape, apical part of pedicel and distal four joints of flagellum silvery white, rest purple. Pedicel thrice longer than wide at apex, distinctly longer than funicle 1 which is longest, one and a half times longer than wide, 2 longer than wide, 3 subquadrate, 6 wider than long; club somewhat over half the length of the funicle. Hind tibiæ with two spurs. Marginal vein twice longer than wide, the stigmal a third shorter, the postmarginal a little shorter than the stigmal. Mandible acute as in the Arrhenophagini but inwardly with a second small acute tooth some distance down from tip of the other. Frons punctate. Head and thorax hairy, the scutellum punctate, the scutum with scattered (setigerous) punctures. Axillæ a little separated, without a carina between them. About five lines of coarse cilia proximad of hairless line. Otherwise as in *Holanusia* but the thorax is less convexed.

From one female taken January 15, 1914 in jungle (A. P. Dodd).

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 3132*, Queensland Museum, Brisbane, the specimen on a tag; head, fore wing and a hind tibia on a slide with type of *Holanusia convexus*.

2. ANUSOMYIA AERISCUTELLUM new species.

Female:—Length, 1 mm.

Dark shining metallic green, the scutellum and abdomen bronze or coppery, the wings hyaline, the legs, propleura and caudal end of mesopleurum, rich yellowish brown; antennæ concolorous except extreme tip of scape which is white. Vertex with numerous thimble punctures; scutum scaly and with scattered, numerous, minute setigerous punctures; scutellum and abdomen glabrous. Axillæ finely transversely sheened, separated by a carina. Scape greatly dilated (more than twice wider than that of the genotype); pedicel only a half longer than wide at apex, somewhat longer than funicle 1 which is longest and a little longer than wide, 2 and 3 subquadrate, the rest very slightly shortening distad. Club a little wider than and half the length of the funicle. Vertex flat. Postmarginal vein a little shorter than the stigmal, the latter a little shorter than the marginal which is two and a fourth times longer than wide. Mandibles short with two acute, slender teeth of which the first is much longer than the second. Otherwise as in the genotype. Eyes hairy.

From one female taken by sweeping jungle along a forest streamlet, foothills, March 31, 1914.

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 3133*, Queensland Museum, Brisbane, the female on a tag; fore wing, head and a hind tibia on a slide.

EPITETRACNEMUS new genus.

1. EPITETRACNEMUS SEXGUTTATIPENNIS new species. Genotype.

Female:—Length, 0.75 mm., excluding ovipositor which is distinctly but shortly extruded.

Dark bluish black, the head and scutum metallic green, both finely scaly reticulate with scattered minute setigerous punctures, the scutellum triangular, with a wide base, scaly punctate;

axillæ distinctly separated for some distance; knees, tarsi and tips of tibiæ yellowish white. Joints 5 and 6 of funicle white, 5 suffused with dusky; distal two club joints suffused with whitish. Fore wings sooty from the bend of the submarginal vein distad to apex, the sootiness broken by the oblique hairless line and by six rounded spots—two eggshaped ones facing each other in the center of the blade just before apex; two larger rounded ones, one at apex of venation at cephalic margin, one at caudal margin somewhat distad of a point opposite the first; a similar spot opposite the marginal vein at caudal third, one end against the oblique hairless line; and the sixth (smallest) one between the oblique hairless line and venation, in the angle subtended by them. Scape distinctly dilated (compressed) ventrad but the convexity not very great; pedicel a little longer than wide, somewhat longer than funicle 6 which is longest of the funicle, yet wider than long; funicle joints 1-4 short, twice longer than wide, 4 a little the longest, 5 twice the length of 4, a little smaller than 6. Club conic-ovate, nearly as long as the funicle. Second tooth of mandible truncate. Marginal vein a little over thrice longer than broad, the postmarginal subobsolete, the stigmal vein short, colorless, the fuscous patch just cephalad of the hyaline spot at apex of the black marginal vein, distinctly darker. Discal ciliation of fore wings extremely fine and dense, the marginal ciliation short. Frons moderate, the antennæ 11-jointed, inserted about on a level with the ventral ends of the eyes. Head (cephalic aspect) rounded. Pubescence not conspicuous, very sparse, no ring-joint. Scrobes distinct, moderate. Cheeks nearly as long as the eyes.

From one female caught by sweeping jungle along a forest streamlet, December 2, 1912 (A. P. Dodd).

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 3134*, Queensland Museum, Brisbane, the female on a tag; head and a fore wing on a slide.

Later, a female was found from Ayr, Queensland, captured November 6, 1912 by sweeping in natural forest. In this specimen all of funicle 5 was white.

Also a female from Cloncurry, forest, April 18, 1914 (A. P. Dodd); one from Chindera, New South Wales (forest, sand-ridges near coast), May 9, 1914 (A. P. Dodd); and one at Capeville (Pentland), Queensland, forest, September 10, 1914.

PARASTENOTERYS new genus

Female:—In Ashmead's (1904) table of genera running to the second part of couplet 15 but differs from the included genera in having the axillæ distinctly separated yet not for a great distance. The flagellum is strongly clavate, the vertex and frons moderate (neither broad nor especially narrow), the scrobes deep, tolerably long, not joined above but separated by a distinct ridge from the base of the antennæ. From cephalic aspect, the head is longer than wide. Marginal vein of fore wing a little over thrice longer than wide, the postmarginal and stigmal veins subequal, each about two thirds the length of the marginal. Oblique hairless line and marginal cilia present, the former narrow. Abdomen not as long as the thorax, pointed, depressed, the second segment occupying over a third of the surface, the others short, transverse. Ovipositor not exserted. Propodeum large. Mandibles with two equal, acute teeth.

1. PARASTENOTERYS PUNCTATUS new species. Genotype.

Female:—Length, 1.33 mm.

Metallic purple, the scutellum rosaceous coppery; legs except the concolorous hind coxæ and the scape reddish or yellowish brown, the distal two club joints yellowish white. Fore wings distinctly embrowned from a little out from base to apex but with a midlongitudinal hyaline line from apex to proximal third. Thorax very finely scaly, the pronotum, scutum, axillæ and scutellum with numerous, distinct, but not large, setigerous punctures. All of the mesal part of propodeum foveolate, farther laterad smooth, with a lateral carina and the lateral

margin carinated; propodeal spiracle minute, laterad of the lateral carina. Abdomen glabrous. Propodeum black. Club larger than the funicle but only about half its length, obliquely truncate; pedicel a little over twice longer than wide at apex, a little longer than funicle 1 which is longest, the following joints shortening and widening gradually to the club, 4 subquadrate, 5 and 6 somewhat wider than long. Hind tibial spurs double. Cheeks two thirds the length of the eyes. Antennæ well clothed; pubescence on thoracic dorsum present but not *conspicuous* yet from lateral aspect rather dense. Scutellum more coarsely scaly than rest of thorax. Mesopleurum densely, distinctly punctate, smooth at extreme cephalic end. Head impunctate but a row of fine punctures across the vertex by the eye margins.

From one female caught May 19, 1913 by sweeping in jungle (A. P. Dodd).

Habitat: Kuranda, Queensland.

Type: No. *Hy 3135*, Queensland Museum, Brisbane, the specimen on a tag; head and a hind leg on a slide.

2. PARASTENOTERYS VARIPES new species.

Female:—Length, 1.50 mm.

Black or nearly, the scutellum metallic blue, the abdomen dark coppery, green at base. Fore wings lightly stained yellowish under marginal vein, the venation pale. All coxæ and cephalic legs except the tarsi and each end of the tibiæ, concolorous; rest of legs reddish brown. Scape reddish brown except the bulla which is concolorous; rest of antennæ black, except the yellowish apex of pedicel. Wings hyaline. Pedicel somewhat longer than wide at apex, somewhat longer than any of the funicle joints which thicken a little distad but are subequal, a little longer than wide; club two thirds the length of the funicle and distinctly much wider, conic-ovate. Hairless line rather obscure, with about five lines of cilia proximad of it. Marginal vein about five times longer than wide, the postmarginal a little longer than the stigmal which is two thirds the length of the marginal or a little longer. The smaller spur of hind tibia no longer than the apical setæ but distinctly stouter. Head somewhat longer than wide. Scutum polygonally scaly and with pilosity; axillæ more finely scaly, the scutellum like the axillæ but the scaliness has a longitudinal trend. Meson of propodeum with oblique rugæ. Segment 2 of abdomen occupying a third of the surface, much longer than any of the other segments. Face rather much inflexed, frons not prominent, the scrobes as in the genotype. Ovipositor slightly extruded. Otherwise as in the genotype.

From one female caught May 4, 1914 in jungle near Tweed River (A. P. Dodd).

Habitat: Tweed Heads, New South Wales.

Type: No. *Hy 3137*, Queensland Museum, Brisbane, the specimen on a tag; head, a pair of wings and hind tibiæ with slide type of *Ectromomyiella articulus* Girault.

PARATETRACNEMOIDEA new genus.

Female:—Differs from *Tetracnemoidea* Howard in that the venation does not reach the costal margin, the marginal vein punctiform, the postmarginal absent, the stigmal short but distinct, clavate, about twice longer than wide. Mandibles with two unequal, acute teeth. Carina on epistoma not distinct; the thorax is globular, the axillæ separated a short distance; abdomen very short, depressed, pointed triangular, shorter than the thorax, the ovipositor extruded a short distance. Fore wing extending well beyond the body. Scutellum overhanging the short propodeum, convex, globular from dorsal aspect.

1. PARATETRACNEMOIDEA BREVIVENTRIS new species. Genotype.

Female:—Length, 0.70 mm. Very short but rather robust. Dark metallic purple, the legs and scape except at apex, rich yellow-brown, the coxæ mostly concolorous with the body. Antennæ inserted at the clypeus, the flagellum spear-shaped, the scrobes long, the scape slender; pedicel somewhat longer than funicle 1 which is longest, somewhat longer than wide, 2 somewhat shorter than 1, a little longer than wide, 3 and 4 quadrate, 5 and 6 wider and

subequal in length to 2. Club long, acutely conic-ovate, a little shorter than the funicle; the flagellum concolorous with body. Frons broad. Fore wings distinctly stained yellowish brown to apex from the bend of the submarginal vein, the marginal fringes very short, the discal cilia very dense and fine, the hairless line not distinct though indicated. Thorax and head densely, moderately coarsely polygonally scaly, appearing like scaly punctation but the areas not truly sunken. Abdomen subglabrous. Pronotum distinct, transverse. Scutum subequal to the scutellum in length. Pubescence not conspicuous. Antennæ 12-jointed, with one ring-joint, the club 3-jointed.

From one female taken from a window, October, 1912.

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 3136,* Queensland Museum, Brisbane, the specimen on a tag; head and fore wing on a slide.

AMENISCOCEPHALUS new genus.

Female:—Agrees with the description of *Meniscocephalus* Perkins but the lateral ocelli are distinctly separated from the eyes, the flagellum is filiform, the club 3-jointed, the axillæ are widely separated and the marginal vein is linear, five or six times longer than wide, the postmarginal distinctly absent, the stigmal long and slender, subequal to the marginal. Oblique, hairless line of fore wing only twice longer than wide, completely enclosed. Hind tibial spur single. Scutum wider than long, shorter than the triangular scutellum. Pronotum transverse linear. Scrobes distinct, separated at apex, the face not inflexed. Cheeks half the length of the eyes.

1. AMENISCOCEPHALUS MENISCOCEPHALUS new species. Genotype.

Female:—Length, 1.15 mm. Short, robust.

Deep golden yellow, the head and thorax very finely, densely scaly and with minute scattered setigerous punctures. Proximal half or two thirds of fore wing embrowned but not very deeply so. Antennæ and legs pale yellow; pedicel dusky above at proximal half. Scape long and slender, longer than the club which is not enlarged and somewhat over half the length of the funicle; scape dusky centrally; pedicel subequal to funicle 1 which is not quite twice longer than wide, 2 a little shorter than it, 5 and 6 quadrate or very little longer than wide. Distal two club joints dusky. Discal cilia of fore wing very short.

From one female caught in forest, April 9, 1913.

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 3138,* Queensland Museum, Brisbane, the female on a tag; head, fore wing and a hind tibia on a slide with type *Echthrobacca auraticorpus* Girault.

ECTROMOIDES new genus.

Female:—The stigmal vein is slightly longer than the marginal, the postmarginal distinctly longer than the marginal, the latter only slightly over twice longer than wide. Mandibles slender with two rather long, acute unequal teeth. Frons moderate, about four times the diameter of the cephalic ocellus; face inflexed, frons not prominent. Hind tibiæ apparently with two spurs. Antennæ cylindrical.

1. ECTROMOIDES PURPUREISCUTELLUM new species.

Female:—Length, 1.25 mm.

Orange yellow, the head, abdomen, scutellum, pronotum and cephalic part of scutum at meson narrowly, metallic purple. Wings slightly yellowish throughout. Scape concolorous; funicle and pedicel purple, the club white; distal two funicle joints inclined to be paler. Pedicel subequal to funicle 1 which is longest, one and a third times longer than wide, 2-3 subequal, a little shorter than 1, 4 and 5 subequal, a little shorter, 6 still shorter, a little longer than wide. Club no wider than the funicle and not quite half its length. Cheeks about half the length of the

eyes. Frons with some punctures; scutum finely scaly, the scutellum glabrous; scutum with numerous obscure setigerous punctures, the scutellum with only few. Axillæ separated for a short distance.

From three females caught May 28, 1913 by sweeping jungle.

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 3139*, Queensland Museum, Brisbane, one specimen on a tag; head, a wing and a hind tibia on a slide.

PARALEPTOMASTIX new genus.

Female:—Form robust, the head lenticular, narrowed ventrad of the face, the mandibles not large, with two acute teeth, the second tooth much shorter than the first, from lateral aspect acute. Frons broad, the cheeks over half the length of the eyes; scrobes very short. Fourth joint of maxillary palpus elongate. Antennæ slenderly clavate, the scape slender but normal, the first funicle joint elongate, the club short, ovate, its first two joints much wider than long, together forming only about a third of the length. Marginal vein about thrice longer than wide, the postmarginal elongate, over two and a half times the length of the marginal, the stigmal long, curved, one and two third times longer than the marginal. Costal cell large. Hind legs (including first tarsal joint, excluding coxæ) compressed, the femur along distal half ventrad with a narrow colorless membranous exfoliation; two tibial spurs. Ovipositor not exserted, the abdomen much smaller than the thorax. Pronotum transverse. Axillæ meeting.

1. PARALEPTOMASTIX THOREAUINI new species. Genotype.

Female:—Length, about 2.30 mm.

Dark metallic green with bluish tinges, the abdomen and hind legs black-blue, the first two pairs of legs and antennæ reddish brown; antennal club black. Venation dusky black, the fore wing with a large, diamond-shaped smoky area suspended from the distal half of stigmal vein and reaching nearly to caudal margin, its apex distad and extending to a point beyond apex of the postmarginal vein. The area is divided longitudinally nearly into two equal halves by a clear line.

Head densely punctulate. Scutum finely scaly, pilose. Scutellum longitudinally lineolated. Axillæ with a short carina between them. Oblique hairless line with over a dozen lines of coarser cilia proximad of it. Club shorter than funicle 1 which is distinctly twice longer than the normal pedicel; funicle 2 a little over half the length of 1, distinctly longer than the pedicel, 4 and 5 subequal, each slightly longer than wide, 6 a little wider than long. Joint 1 of maxillary palpus black.

From one female taken November 19, 1913 (H. Hacker).

Habitat: Brisbane, Queensland.

Type: No. *Hy 3140*, Queensland Museum, Brisbane, the specimen on a tag; head, fore wing and a hind leg on a slide.

PARATETRALOPHIDEA new genus.

Female:—In Ashmead's (1904) table of genera runs to *Calocerinus* Howard but the scape is distinctly but not greatly dilated, foliaceously widening toward apex. Head a little longer than wide, the second tooth of mandible broadly truncate, the cheeks not quite as long as the eyes, the scrobes tolerably short, forming more or less of a semicircle, the face sub-lenticular; frons tolerably narrow. Antennæ inserted not far above the clypeus, clavate, 12-jointed with one short ring-joint, the club short and stout, compressed, about a third the length of the funicle; pedicel subequal to funicle 3, the distal three funicle joints wider than long. Axillæ broadly joined. Marginal vein about four times longer than wide, the stigmal a fourth shorter than it, the postmarginal just developed. Oblique hairless line present. Fore

wings with a pattern, the marginal fringes short. Hind tibial spurs double. Funicle 1 nearly twice longer than wide, longest. Cephalic and caudal femora and tibiæ compressed. Scutum a little longer than the scutellum, the abdomen depressed, triangular, as long as the thorax, the ovipositor not exserted, segment 3 apparently occupying two thirds or more of the surface.

1. PARATETRALOPHIDEA ORNATIPENNIS new species. Genotype.

Female:—Length, 1.60 mm. Stout, rather short.

Dark metallic purple, the scutellum dark blue at distal third, rest green; middle legs except coxæ and femora proximad and all tarsi, brown. Fore wing with two conspicuous, broad, black stripes across them, the first from the distal fourth or less of the submarginal, all of marginal and stigmal veins (not crossing the latter), its proximal margin straight, continuous with the discal ciliation, its cephalic margin convex; the second stripe is a little longer and occupies about the distal third of the wing; a rather broad hyaline band between the two; cilia proximad of the hairless line dense, twice coarser, about 10 lines. Head and thorax delicately reticulate and with numerous, distinct but minute setigerous punctures, the scutellum polished but with faint traces of scaliness proximad and with a few scattered setigerous punctures. Propodeum with a weak median carina, the surface nearly smooth. Pubescence not conspicuous.

From one female taken in jungle, March 5, 1914.

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 3141*, Queensland Museum, Brisbane, the specimen on a tag; hind tibia, head and a fore wing on a slide.

OMPHALENCYRTUS new genus.

Female:—Antennæ inserted below the middle of the face, 9-jointed with no ring-joint, the club long, 3-jointed, the incisions faint. Abdomen rather stout, longer than the thorax, the ovipositor short, inserted toward tip, not extruded. Middle tibial spur normal for the family. Axillæ wedge-shaped, meeting at meson or nearly. Mandibles with the second tooth truncate. Eyes not convergent. Wings present, the marginal vein about twice longer than wide, the stigmal and postmarginal veins still shorter. Scape a little compressed. With the habitus of an omphaline eulophid.

1. OMPHALENCYRTUS WALLACEI new species. Genotype.

Female:—Length, 0.75 mm.

Dark metallic green, the wings hyaline, the coxæ concolorous, also the pedicel above; antennæ and legs pallid white except hind femur and proximal two thirds of hind tibia which are concolorous. Club longer than the funicle. Incisions of abdomen showing as more or less distinct whitish cross-stripes. Pedicel not much over a third the length of the club, distinctly longer than any of the funicle joints of which 1 is longer than wide and plainly the longest, the others wider than long, 2 and 3 subequal, shorter than 4 which is not much wider than long. Pedicel nearly twice the length of funicle 1. Thorax finely scaly.

Described from one female caught January 2, 1913 by sweeping forest (A. P. Dodd).

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 3142*, Queensland Museum, Brisbane, the female on a slide.

ERICYDNELLA new genus.

1. ERICYDNELLA ASHMEADI new species. Genotype.

Female:—Length, 1.80 mm.

Dark metallic purple, the wings hyaline; tarsi, cephalic tibiæ and distal half of intermediate tibiæ reddish brown, the scape so at proximal third and the intermediate femora in

the same place. Scape slender not reaching beyond the vertex; pedicel one and a half times longer than wide, longer than any of the funicle joints of which 1 is longest, somewhat longer than wide, 2 and 3 subquadrate, 4 a little wider than long, 6 distinctly wider than long; club not especially enlarged, the flagellum regularly clavate, the club a little less than half the length of the funicle; antennæ 12-jointed, inserted at the clypeus. Frons very broad, the lateral ocelli their own diameter from the eye margins, the eyes somewhat longer than the cheeks. Fore wing with an oblique hairless line; marginal vein about thrice longer than wide, the postmarginal very short, about a third the length of the marginal, the stigmal a little longer than the marginal. A single line of coarser discal cilia proximad of the hairless line; marginal fringes very short. Mandibles with two rather stout, acute teeth. Head sublenticular, the scrobes not long, the surface finely, transversely sheened but with scattered thimble punctures a line of which runs over the partially impunctate vertex along the eyes. Axillæ joined acutely at the meson. Scutum and axillæ sculptured like the head but the punctures are rather numerous minute setigerous ones; scutellum glabrous. Metapleura with white pubescence; propodeum short at meson, with a median carina joined to the apex of scutellum, widening laterad and there with distinct transverse rugæ (cephalo-laterad), otherwise glabrous. Abdomen pointed conic-ovate, a little longer than the rest of the body. Scutellum with sparse pubescence. Segments 3 and 6 of abdomen transverse, shorter than 2, 7 apparently occupying the rest of the surface (a third). Pronotum transverse. Hind tibial spurs double.

From one female caught on a window, June 4, 1912.

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 3143*, Queensland Museum, Brisbane, the female on a tag; head, hind tibiæ and wing on a slide.

TETRACNEMELLA new genus.

1. TETRACNEMELLA AUSTRALIENSIS new species. Genotype.

Female:—Length, 1.05 mm.

Dark metallic blue, the abdomen purple, the scutellum green; wings hyaline; legs and antennæ pale yellow (coxæ not plainly seen). Antennæ inserted near the mouth border, the scrobes tolerably long, forming a triangle, the scape slender; pedicel metallic, bluish except at apex, twice longer than wide at apex, much longer than any of the funicle joints of which 1-4 are subequal, each a little longer than wide, 5 and 6 longest, somewhat longer than wide and a little wider than the others; club slender, a little wider than the funicle and somewhat over half its length. Mandibles with the second tooth truncate, rather broad, its lateral apical angle subacute, the apex a little concaved. Axillæ widely separated. Marginal vein somewhat thickened, a little longer than wide, the postmarginal vein a little shorter than the marginal, the stigmal nearly twice longer than the marginal; oblique hairless line present. Frons narrow, the cephalic ocellus about its diameter (or a little less) from the eye margin; cheeks nearly as long as the eyes; frons not prominent but the face inflexed. Head with very fine surface sculpture and with a few very minute setigerous punctures. Scutum and axillæ like the head but the minute setigerous punctures rather numerous on the former. Scutellum finely, densely punctulate or shagreened. Pronotum transverse. Proximal two segments of abdomen greenish, scaly, the rest shining, the abdomen flat, pointed-ovate, as long as the thorax, the ovipositor distinctly but very shortly extruded, white. Scutellum overhanging meson of propodeum. Pubescence not conspicuous.

From one female captured by sweeping miscellaneous vegetation along the Herbert River, February 26, 1913.

Habitat: Halifax (Ingham), Northern Queensland.

Type: No. *Hy 3144*, Queensland Museum, Brisbane, the specimen on a tag; fore wing and hind legs on a slide.

2. TETRACNEMELLA VIRIDISCUTELLUM new species.

Female:—Length, 0.85 mm. Differs from the preceding principally in having the frons broad.

Dark metallic blue, the wings hyaline, the scutellum contrasting green; knees, tarsi, tips of tibiæ (all of middle tibiæ except just below knees), yellowish; funicle and club whitish, also tips of pedicel and scape. Head and thorax densely scaly. Funicles 1 and 4 shortest, all the others short, subquadrate, 4 a little wider than long; pedicel distinctly longer than any of the funicle joints; club a little over half the length of the funicle. Scutum with soft scattered pilosity. Axillæ not greatly separated. Stigmal vein twice the length of the marginal which is quadrate and subequal to the postmarginal. Otherwise as in the preceding.

From one female taken by sweeping in forest, December 25, 1912.

Habitat: Capeville (Pentland), Queensland.

Type: No. *Hy 3145*, Queensland Museum, Brisbane, the specimen on a tag; head, hind wing and hind legs on a slide.

3. TETRACNEMELLA MINUTELLA new species.

Female:—Length, 0.85 mm.

Dark grass green, metallic, the wings hyaline, the venation, knees, distal half of cephalic tibiæ, distal three fourths of middle tibiæ, tips of caudal tibiæ, tarsi and tegulæ pale yellowish brown. Funicle yellowish brown, the club a little darker, the pedicel and scape dark metallic green. Abdomen dark, shorter than the thorax. Funicle joints subequal but widening a little distad. Frons moderately narrow. Venation as in *viridiscutellum* and resembles that species closely but in the head it is like *australiensis* except that the frons is subprominent. Differs from *viridiscutellum* in having the cephalic tibiæ mostly yellowish, the scape and pedicel wholly dark metallic, the frons is narrower, the thorax is a trifle more densely, finely scaly. Scutum and scutellum large in both species, the scutellum extending to base of abdomen.

From one female caught on forest uplands, May 3, 1914 (A. P. Dodd).

Habitat: Tweed Heads (Tweed River), New South Wales.

Type: No. *Hy 3146*, Queensland Museum, Brisbane, the specimen on a tag; head, a hind leg and a fore wing on a slide.

PARECTROMOIDES new genus.

Female:—In the table of genera runs to *Ectromoides* Girault but differs in that the marginal vein is longer than either the postmarginal and stigmal which are subequal and rather long, the venation as in *Eurytoma*. Also, the scutellum is larger, extending to base of abdomen. The marginal vein is five or more times longer than wide. Scrobes long, separated by a median ridge from between base of antennæ. Frons moderately narrow. Mandibular teeth a little unequal, acute. Flagellum capitate, the funicle cylindrical, the scape long and slender, longer than the club which is about two thirds the length of the funicle. Cheeks about as long as the eyes. Ovipositor distinctly shortly extruded. Club long-ovate. Thorax convex, not flat as in *Ectromoides*. Cephalic legs compressed.

1. PARECTROMOIDES MAGNISCUTELLUM new species. Genotype.

Female:—Length, 1.50 mm. Stout.

Dark purple, the abdomen dark green, the extruded valves of ovipositor and antennæ (except the brownish yellow apical end of scape) black. Scutum with an obscure silvery stripe across caudal edge. Fore wings with a distinct yellow stain from whole of the marginal vein two thirds the way across the caudal margins and diffused distad under the stigmal vein, the venation yellow. Legs concolorous except tarsi, tips of tibiæ, distal half of caudal femur, caudal two pairs of knees, distal half of middle tibiæ and all of caudal tibiæ, which are rich yellowish brown. Frons with a double row of fine punctures along the eyes, otherwise scaly.

Scape dusky. Distal three funicle joints longest, each somewhat longer than wide, the proximal three slightly longer than wide. Pedicel somewhat longer than funicle 4. Oblique hairless line of fore wing with about half a dozen lines of coarser cilia proximad of it. Hind wings short and broad, with about twenty-three lines of fine discal ciliation where broadest. Ring-joint present. Axillæ finely scaly, narrow, just joining at meson, with an obscure carina between them; scutellum longitudinally lined; scutum and the transverse pronotum densely scaly, the former with very many minute setigerous pin-punctures, the pubescence not silvery. Abdomen shorter than the thorax, finely scaly, bright green at base. Hind tibial spur single.

From one female taken May 29, 1914, forest uplands (A. P. Dodd).

Habitat: Maclean (Clarence River), New South Wales.

Type: No. *Hy 3147,* Queensland Museum, Brisbane, with type of *Epitetracnemus sexguttatipennis* Girault, tag and slide.

Genus ERICYDNUS Walker,

1. ERICYDNUS CHRYSCUS Walker. Male.

"*Pteromalus ? chryscus* Walker, Mon. Chalcid, II, p. 34, ♂. Australia."

2. ERICYDNUS MEGALARUS Walker. Female.

"*Eulophus megalarus* Walker, Ent. Mag. V, p. 477, ♀. Australia."

3. ERICYDNUS HEMIPTERUS new species

Female:—Length, 1.15 mm. Short and robust, resembling a *Hadronotus.*

Brilliant metallic dark green, the mesopleurum and abdomen purple; distal fourth of fore wing sooty; legs purple except tarsi and distal two thirds of middle tibiæ which are brownish yellow, also the knees and more or less of tips of tibiæ. Antennæ purplish, the club paler; scape slender, cylindrical; pedicel subelongate, longer than any of the funicle joints, all of the latter longer than wide, 4 somewhat the longest, 6 somewhat the shortest. Club slightly wider than the funicle, its three joints a little shorter than the funicle joints; pedicel not quite a third the length of the funicle; antennæ 12-jointed, one short ring-joint. Middle tibiæ armed with black teeth beneath as in many Eupelminæ. Head densely scaly punctate, the thorax polygonally scaly; axillæ widely separated, the scutellum convex, sublenticular but nearly as long as wide, rounded at apex. Wings very small, reaching to proximal fifth of abdomen, the latter short. Front femur compressed, middle tibia somewhat dilated at apex, the spur with hairs ventrad. Lateral ocelli somewhat separated from the eyes, the ocelli minute. Mesopleurum finely, longitudinally lineolated. Abdomen finely scaly, green at base. Scrobes not long. Vertex moderate in width, the frons moderately narrow. Ovipositor not exserted. Hind tibial spurs apparently double. Pronotum transverse-linear. Second tooth of mandible broad, truncate, the first small.

Described at first from eight females reared from a mass of pentatomid eggs on a bush in the forest. The hosts were obtained May 7, the parasites emerging May 30, 1912. Later two females were seen in the collections of the Queensland Museum labelled "Sweeping undergrowth, mostly eucalypts, Brisbane, April 4 and 16, 1913 (H. Hacker)." Also, what appears to be a male was captured by sweeping in the dry bed of the Proserpine River, at Proserpine, Queensland, November 3, 1912. It is similar to the female except that the middle tibiæ are wholly yellow, the club is solid, the pedicel shorter, the funicle joints longer; pedicel much shorter than funicle 1; funicles 2 and 3 slightly the longest, two and a half times longer than wide. The antennal pubescence though not long is longer than in the female. Discal cilia of fore wing confined to the small distal sooty area, the venation running to apex.

Habitat: Gordonvale (Cairns), Proserpine and Brisbane, Queensland. Forest.

Types: No. *Hy 3148,* Queensland Museum, Brisbane, four females on a tag; two female heads and three legs on a slide.

Type locality, Gordonvale.

A. ERICYDNUS HEMIPTERUS PENTLANDENSIS new variety.

Female:—Like the typical form but the funicle joints all shorter, subequal, all somewhat longer than wide; funicle 4 not distinctly longest.

From one female taken by sweeping forest, January 4, 1913.

Habitat: Capeville (Pentland), Queensland.

Type: None designated.

GENUS TETRACNEMOIDEA Howard.

1. TETRACNEMOIDEA AUSTRALIENSIS Howard. Female, male.

"*Tetracnemoidea australiensis* Howard, Proc. U. S. Nat. Mus., vol. 21, p. 232, ♀, ♂ (1898). Australia: Sydney."

EPICHEILONEURUS new genus.

Female:—Like *Cristatithorax* but the scutellum is simple, scape distinctly compressed. In the table runs to *Paratetralophidea* Girault from which it is easily distinguished by reason of the long marginal vein and the short stigmal, the latter about a fourth of the length of the former.

1. EPICHEILONEURUS ALBICOXA new species. Genotype.

Female:—Length, 1.25 mm.

Very similar to *Cristathorax pasteuri* Girault but the legs are lighter, funicle 6 suffused with whitish, tips of tibiæ white and the scape somewhat more dilated and of the head only the occiput is dark metallic. Compared with type of *C. bidentimaxillæ*. Dark metallic green, the head orange yellow, the scutum with a short dense silvery pubescence, the middle coxæ concolorous. Antennæ all black, funicle 6 suffused with white. First and last pairs of coxæ, tarsi, tips of tibiæ (broadly so on middle legs) and middle femur silvery white. Rest of legs blackish, front legs dusky. Tegulæ orange. Scutellum with a pair of long setæ from extreme apex. Head as in *C. pasteuri* and also the antennæ. Wings as in the same species. Hind tibial spur single. Scutellum densely shagreened, the scutum very finely scaly, the propodeum yet finer, laterad with silvery pubescence. Axillæ separated distinctly a short distance.

From one female caught in forest, August 14, 1914.

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 3149*, Queensland Museum, Brisbane, the specimen on a tag; head, fore wings and a hind leg on a slide.

COCCIDOXENOIDES new genus.

Female:—Like *Fulgoridicida* Perkins but the antennal club but 2-jointed, the frons moderately broad. Marginal vein a little longer than wide, the postmarginal barely developed, the stigmal somewhat longer than the marginal. Mandibles very small, with two minute, acute teeth. Fore wings of moderate width.

1. COCCIDOXENOIDES PERMINUTUS new species. Genotype.

Female:—Length, 0.50 mm.

Dark metallic purple, the wings hyaline, the knees, tarsi and tips of tibiæ yellow, the venation dusky. Hairless line of fore wing with 3-4 lines of cilia proximad of it. Thorax polygonally scaly. Axillæ meeting inwardly. Abdomen triangular, pointed, as long as the thorax. Scape of moderate length; first five funicle joints short, subequal, each much wider than long (nearly twice wider), 6 abruptly much larger, a little longer than wide, thrice the

length of one of the others or nearly and a little longer than the pedicel. Club conic-ovate, not enlarged, nearly as long as the funicle or scape.

From one female caught in forest in January.

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 3150,* Queensland Museum, Brisbane, the specimen on a tag; a fore wing and the hind tibiæ on a slide.

NEANAGYRUS new genus.

1. NEANAGYRUS CAPITATUS new species. Genotype.

Female:—Length, 1.33 mm. Habitus of *Anagyrus.* Body depressed.

Æneous green, the wings hyaline, the abdomen dark coppery, the legs reddish yellow except the metallic caudal coxæ, the somewhat dusky metallic tibiæ and two blackish spots on caudal tibiæ dorsad, the first some little distance below knee and small, the second large and midway between middle and apex. Vertex densely punctulate. Apex of pedicel and proximal third or more of scape lemon yellow, rest black, the funicle and club dull brown. Venation black. Thorax densely polygonally scaly, with numerous obscure, small, setigerous punctures, the axillæ finely, transversely scaly, a little separated, no carina between them.

Face much inflexed, the scrobes arched above but the frons sloping, not prominent. Frons moderate. Cheeks a little over half the length of the eyes. Scape a little dilated foliaceously, the funicle joints all wider than long but not annular, the flagellum capitate, the club very short, 2-jointed, strongly obliquely truncate, not much longer than wide, the flagellum somewhat as in *Taftia* Ashmead. Pedicel longer than any of the funicle joints, the latter gradually enlarging distad. Second tooth of mandible truncate. Marginal vein punctiform, the postmarginal and stigmal veins subequal, moderately long, normal. Hairless line of fore wing with many lines of cilia proximad of it. Caudal wings short and broad, the submarginal vein convexly curved, the costal cell not extending to the hooklets, the blade where widest with about twenty-five lines of fine uniform discal cilia. Fore wing broad, very finely ciliate. Hind tibial spurs double. Abdomen flat ventrad and dorsad, the ovipositor valves apparently absent. Club distinctly shorter than the funicle.

From one female caught May 30, 1914 on forest uplands (A. P. Dodd).

Habitat: Maclean (Clarence River), New South Wales.

Type: No. *Hy 3151,* Queensland Museum, Brisbane, the specimen on a tag; head, pair of wings and hind tibiæ with slide type of *Paraphænodiscus verus* Girault.

ARHOPOIDEUS new genus.

Female:—Head (cephalic aspect) longer than wide, the scrobes long, the frons rather broad, not prominent, the cheeks fully as long as the eyes, the mandibles small, apparently acute, the antennæ inserted near the mouth border, 10-jointed without a ring-joint, the club 3-jointed and distinctly wider than the funicle and nearly its length. Marginal vein a little over twice longer than wide, subequal to the stigmal, the postmarginal absent. Hind tibial spur single. Abdomen longer than the rest of the body, compressed, pointed slender, the ovipositor nakedly extruded for a third of its length. Tarsi 5-jointed. Axillæ a little separated, the pronotum transverse-linear, barely visible from dorsal aspect. Propodeal spiracle minute, round, situate a little caudad of center. Scutellum rounded at apex, nearly as long as the scutum. Mandibles small, appearing acute but really with two small acute teeth at apex, one longer than the other.

1. ARHOPOIDEUS BREVICORNIS new species.

Female:—Length, 1.30 mm. excluding ovipositor. Slender.

Dark metallic green, the scutellum purple, the wings hayaline, the legs white except caudal coxa. Propodeum and abdomen very dark green. Body scaly, the scutum somewhat more

coarsely so, the propodeum subglabrous, short at meson. Venation dark. Proximal half of scape except bulla and apex of pedicel, lemon yellow. Fore wing densely ciliate discally, the hairless line very broad and but obscurely defined proximad by scattered minute cilia. Club conic-ovate, rather large; pedicel large, nearly a half longer than wide at apex, longer than any funicle joint; funicle 1 longest, not quite twice longer than wide, 2 and 3 subequal, subquadrate, shortest, 4 and 5 subequal, widest, a little longer than wide. Scape subequal to the club, a little compressed.

From one female caught in forest, June 4, 1914 (A. P. Dodd).

Habitat: Copmanhurst (Upper Clarence River), New South Wales.

Type: No. *Hy 3152*, Queensland Museum, Brisbane, the specimen on a tag; head, hind tibiæ and a fore wing on a slide with type *Achrysopophagus oviductus.*

2. ARHOPOIDEUS SECUNDUS new species.

Female:—Slightly smaller than the genotype and differing in having the scape all black, shorter and stouter, the caudal femora and tibiæ washed with dusky. Also, the frons is moderate and the scutellum black-green. Compared with type of genotype.

From one female caught on forest uplands, May 28, 1914 (A. P. Dodd).

Habitat: Maclean (Clarence River), New South Wales.

Type: No. *Hy 3152*, Queensland Museum, Brisbane, the specimen on a tag with type of *brevicornis*, head and a fore wing with slide type of *Signiphora beethoveni.*

PARECTROMOIDELLA new genus.

Female:—In my table of genera runs to *Ectromoides* from which it differs in having the postmarginal vein much shorter than the stigmal and the hind tibial spurs single.

1. PARECTROMOIDELLA THACKERAYI new species.

Female:—Length, 1.10 mm.

Dark metallic purple, the prothorax except apex of neck and caudal margin dorsad, the head and the scutellum, orange yellow, the face slightly washed with purple. Legs concolorous except middle femur, a ring at base of caudal tibiæ a little out from knee and the tarsi which are silvery white. Cephalic tibiæ brownish. A small elliptical purplish spot on scutellum mesad at about middle. Axillæ orange caudo-laterad, with a distinct carina between them. Fore wings hyaline but with a broad subquadrate smoky cross-stripe from about distal third of submarginal vein to apex of postmarginal (broken centrally by an elliptical hyaline area against the venation—submarginal and marginal veins—and distad immediately followed by a naked hyaline cross-band about a third of its width). Distad rest of fore wing lightly dusky and more finely ciliated. Hairless line of fore wing closed at both ends, proximad of it about eight lines of cilia. Venation black, the marginal vein about five times longer than wide, slightly longer than the stigmal which is about twice the length of the postmarginal. Fuscous stripe of fore wing proximad coterminous with the discal ciliation. Scape long, slender, distad a little dilated ventrad (apex), distinctly longer than the club which is about half the length of the funicle and ovate, not much enlarged; pedicel slender, two and a half times longer than wide at apex, distinctly longer than funicle 1 which is a little the longest, somewhat longer than wide; funicle 6 a little wider than long. Scape serrate along the dorsal edge. Frons moderately narrow, convex, not prominent but the facial impression deep. Lateral ocelli not quite their own diameters from the eyes. Cheeks not half the length of the eyes. Mandibles slender, with equal, acute teeth. Scutellum with scattered black hair (a pair of long ones near apex), the scutum with short greyish pubescence. Body scaly. Abdomen pointed. Thorax with numerous minute setigerous pin-punctures. Pronotum transverse-linear, inverse V-shaped (dorsal aspect). Propodeum laterad with rather dense silvery pubescence, the spiracle minute. Scutellum not quite reaching the abdomen.

From one female caught May 10, 1914 (A. P. Dodd).

Habitat: Murwillumbah (Tweed River), New South Wales.

Type: No. *Hy 3153*, Queensland Museum, Brisbane, the specimen on a tag; head, fore wing and hind tibia with slide type of *Encyrtomyia viridiscutellum*.

Dedicated to the author of "Vanity Fair."

STENOTEROPSIS new genus.

Female:—In my table runs to *Fulgoridicida* Perkins but differs in that the stigmal and postmarginal veins are subequal, each somewhat longer than the marginal, the latter a little longer than wide. Also the head is a little longer than wide, the scrobes very long extending not quite to the cephalic ocellus. Hind tibial spur single. Club five sixths the length of the funicle, long conic-ovate. Abdomen rounded triangular, depressed, not as long as the thorax. Scutum and scutellum not much unequal. Pronotum transverse-linear.

1. STENOTEROPSIS ABJECTUS new species. Genotype.

Female:—Length, 0.80 mm.

Dark metallic blue, the abdomen green, the wings hyaline. Body finely scaly, the scutum clothed with black setæ which are not very dense. Axillæ slender, separated by a short carina. Antennæ black. Scape long, very slender, as long as the funicle whose joints are all subquadrate and nearly of equal width, shorter than the usual pedicel. Venation pale yellow, the fore wings broad, densely finely ciliate. Frons moderately narrow. Cheeks much shorter than the eyes. Antennæ inserted at the mouth border.

From one female from the Queensland Museum collections labelled "April 20, 1913 (H. Hacker). Sweeping young *Eucalyptus*."

Habitat: Brisbane, Queensland.

Type: No. *Hy 3154*, Queensland Museum, Brisbane, one female on a tag; head, hind tibiæ and fore wing on a slide.

EPITETRALOPHIDEA new genus.

Female:—Runs to *Paratetralophidea* Girault but differs in having the head rounded, the scape dilated for its entire length, the face much inflexed, the frons subprominent; also the postmarginal and stigmal veins are short and subequal, the marginal vein nearly twice the length of either and a little more than twice longer than wide; the club is not compressed and is over half the length of the funicle, the joints of the latter enlarging distad. The legs are slender, the hind tibial spur single. Axillæ with a short carina between them. Otherwise agreeing with the generic description of the genus named except that the ovipositor is distinctly but very shortly extruded.

1. EPITETRALOPHIDEA BICINCTIPES new species. Genotype.

Female:—Length, 0.85 mm., excluding ovipositor; the latter is extruded for a length less than a seventh that of the abdomen.

Metallic purple, the abdomen very dark, the fore wings hyaline but very lightly dusky along distal third. Venation pale yellow. Legs concolorous; all tibiæ and tarsi silvery white; cephalic tibia black just below knee, middle tibia with a rather broad black band between middle and knee; caudal tibia with a broad black band nearer to knee than to apex; middle femur silvery white encircled by a tolerably broad black band between middle and knee; knees silvery white. Antennæ yellowish white except over proximal half of scape and proximal half of pedicel above; dilation of scape moderate. Pedicel subequal to funicle 6 which is largest, a little longer than wide; funicles 1-2 subequal, small, a little wider than long, 3-4 subequal,

a little longer than wide. Funicle 1 not half the size of 6. Club distinctly wider than the funicle, conic-ovate. Hairless line of fore wing with about six lines of faint but coarser cilia proximad of it. Scutum and scutellum densely polygonally scaly.

From one female caught in forest, sand-ridges near coast, May 9, 1914 (A. P. Dodd).

Habitat: Chindera (Tweed River), New South Wales.

Type: No. *Hy 3155,* Queensland Museum, Brisbane, the specimen on a tag; fore wing, middle leg, hind tibiæ and head with slide type of *Paratetracnemoidea breviventris* Girault.

2. EPITETRALOPHIDEA MINUTA new species.

Female:—Length, 0.40 mm. Axillæ distinctly separated a short distance. Ovipositor slightly extruded.

Metallic purple, the scutellum green. Legs white except caudal coxæ, femora and tibiæ (except tip of latter broadly and the knees), concolorous; a rather wide dusky band on middle legs on each side of knee. Antennæ white, the club and proximal two thirds of pedicel dusky, also the venation, the marginal and stigmal veins with a small dusky spot against them. Hairless line of fore wing with about four lines of discal cilia proximad of it. Scape a little less dilated than in the genotype, the funicle joints all wider than long, the club three fourths the length of the funicle. Frons moderate. Funicle 3 shortest, twice or more wider than long, the joints enlarging distad. Thorax finely scaly. Fore wing extraordinarily finely ciliate in the disk. Otherwise like the genotype.

From one female caught in forest, December 4, 1913.

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 3156,* Queensland Museum, Brisbane, the specimen on a tag with *bicinctipes*; head, fore wing and hind tibiæ with slide type of *Paraleptomastix thoreauini.*

CHEILONEURELLA new genus.

1. CHEILONEURELLA BINOTATIVENTRIS new species. Genotype.

Female:—Length, 1.30 mm.

Bright golden yellow, the face paler; ventral margin of face except at each side (practically the clypeus), lateral margin of axillæ and a large rounded marginal spot on abdomen at apex of proximal third, black. Fore wing lightly infuscated from about the middle of the submarginal vein to apex, the portion under the venation deeper and there is a subhyaline cross-band just distad of venation which is of moderate width and somewhat curved. Tarsi white; pedicel and club dusky. Marginal vein dark, a little over thrice longer than wide, the stigmal somewhat over half its length, a little longer than the postmarginal. About six lines of coarser cilia proximad of hairless line. Mandibles with two outer acute teeth and a third, inner truncation from near base of the second tooth. Face inflexed. Frons moderate, not prominent. Cheeks rather long. Antennæ with short funicle joints, 1 only a little longer than wide, subequal to 2 and 3, the next three a little shorter, all shorter than the pedicel; the frons is a little narrower than with that in *Neastymachus auraticorpus.* Body finely polygonally scaly. Axillæ with a short carina between them. Hind tibial spur single. Club not much enlarged. Head sublenticular.

From one female caught in forest, April 12, 1914.

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 3157,* Queensland Museum, Brisbane, the specimen on a tag, the fore wing on a slide.

A second female same place, June 6, 1914. The marginal spots on abdomen are really short crescents.

CHEILONEUROMYIA new genus.

1. CHEILONEUROMYIA SIMPLICISCUTELLUM new species. Genotype.

Female:—Length, 1.10 mm. A marginal dusky spot on each side of abdomen at base.

Orange yellow, the head except the vertex lemon yellow, the face with a black line across at the insertion of antennæ, this line curving dorsad obtusely at meson; funicle and distal club joint whitish; proximal two club joints black. Fore wings embrowned, crossed by a broad naked hyaline band at apex of the stigmal vein, this band a little longer than the deeper infuscated stripe distad of it, the proximal margin of latter projected proximad at meson. Apex of fore wing clearer. Propodeum, two round marginal spots on each side of the abdomen out about middle and hind tibia just below knee, purplish black. Ovipositor valves slightly extruded, concolorous. Legs yellow. Mandibles with second tooth truncate. Axillæ just joined at meson, with a distinct carina between them. Lateral ocelli barely separated. Head as in *Habrolepopterygis*. Scape slender; pedicel a little longer than funicle 1 which is subequal to 2, both distinctly longer than wide; funicle 6 quadrate. Club ovate, wider than the funicle. Stigmal vein short, the postmarginal not quite as long as it, the marginal about twice its length. Oblique hairless line present. Scutellum simple. Thorax reticulated, with black setæ which are not very long. Abdomen acute, its second marginal spot at the spiracle and more or less obscure.

From two females caught in jungle, April 3, 1914.

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 3158*, Queensland Museum, Brisbane, one specimen on a tag, the head and a fore wing on a slide.

GENUS ÆNASIOIDEA Girault.

1. ÆNASIOIDEA VARIA new species.

Female:—Length, 1.50 mm. exclusive of ovipositor which is extruded for a fifth the length of the abdomen.

Differs from the genotype in having the mandibles with two short, subacute teeth. Silvery white, the wings hyaline, the following parts black: Upper third of occiput, caudal margin of cheeks ventrad of the eyes, cephalic margin of axillæ, dorsum of abdomen, face of pronotum, propodeum, a small spot just above and below (the latter split into two) knees, a linear dot on middle tibia dorso-caudad a little distad of middle, caudal knees lightly and a very thin dot below them, scape except apex of bulla, apex and base of its body, pedicel except apical third, first four funicle joints, fifth slightly and base of first club joint. Vertex, scutum, scutellum and axillæ orange reddish. Rest of funicle and club yellow. Thorax and head finely scaly. Scutellum large, extending to base of abdomen, the axillæ very broadly joined at meson, with a carina between them. Scutum and scutellum with short, moderate silvery pubescence. Abdomen acutely conic, nearly as long as the thorax, scaly. Hind tibial spurs single. Face much inflexed, but the vertex not flat, the frons rather narrow; cheeks over half the length of the eyes. Pedicel nearly twice longer than wide at apex, the first four funicle joints submoniliform, 5 and 6 wider, wider than long; club large, blunt at apex, three fourths the length of the funicle. Ring-joint minute. Hairless line of fore wing with many lines of discal cilia proximad of it. Stigmal vein long. Venation very pale.

From one female caught in forest, June, 1914 (A. P. Dodd).

Habitat: Burnett Heads, South Queensland.

Type: No. *Hy 3159*, Queensland Museum, Brisbane, the specimen on a tag; head, fore wing and a hind tibia on a slide.

TABLE TO THE EARTH'S ECTROMINE GENERA OF ENCYRTIDÆ.*

FEMALES.

The minute ring-joint is usually not considered as of any weight. It is probably present in most of the old genera. The frons is normal unless stated to the contrary.

Winged.

I. Venation of fore wing not reaching the costal margin, the postmarginal vein absent.

Antennæ 12-jointed, with one ring-joint, the scape slender; mandibles with two unequal, acute teeth; frons broad; marginal vein punctiform, the stigmal twice longer. Abdomen very short, depressed, triangular .. ..PARATETRACNEMOIDEA Girault.

II. Venation of fore wing normal.

1. Funicle 2-jointed, the club solid, one ring-joint.

Antennæ inserted on middle of the face; funicle 1 elongate; marginal vein thrice longer than wide. Male .. .. ECTROMOMYIELLA Girault.

2. Funicle 4-jointed, the club 3-jointed.

Two ring-joints. Sometimes wingless. Marginal vein linear. Scape slender .. .. MEROMYZOBIA Ashmead.

No ring-joints. Ovipositor inserted near tip of abdomen. Winged. Marginal vein about twice longer than wide. Scape a little compressed .. .. OMPHALENCYRTUS Girault.

3. Funicle 5-jointed, the club solid (male). Postmarginal vein absent.

Axillæ widely separated; frons broad; funicle with four branches (joints 1-4 of funicle) .. .. TETRACNEMUS Westwood.

4. Funicle 5-jointed, the club 2-jointed. No ring-joint.

Ovipositor extruded; marginal vein quadrate; mandibles narrow, with two equal acute teeth; funicle joints all much wider than long. Club longer than the funicle. Frons broad. Articulation of club not very distinct .. PSEUDECTROMA Girault.

5. Funicle 5-jointed, the club 3-jointed. One ring-joint.

Abdomen normal. Scape slender. Form small, slender; marginal vein barely longer than wide, the stigmal longer. Frons narrow, broadening at caudal vertex. Club distinctly articulated .. .. ECTROMELLA Girault.

Abdomen distad compressed, longer than the rest of the body, the ovipositor nakedly extruded. Postmarginal vein absent, the stigmal as long as the marginal which is about twice longer than wide .. .. ARHOPOIDEUS Girault.

6. Funicle 6-jointed.

Club solid.

Scape extending far beyond the vertex. No ring-joint.

Flagellum clavate, compressed, the funicle joints much wider than long; mandibles with two acute teeth; face with a transverse suture above antennæ; marginal vein long but shorter than the postmarginal and stigmal veins .. .. .. PARANUSIA Girault.

Scape of normal length.

Marginal vein punctiform or only slightly longer than wide.

Scape slender. Funicle joints a little longer than wide. Postmarginal and stigmal veins short, longer than wide. Male with antennal branches .. .. PENTACNEMUS Howard.

Compare TETRACLADIA Howard and TETRALOPHIELLUS Ashmead.

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* *Ænasioidea* Girault excluded.

Marginal vein distinctly much longer than wide.

Funicle joints all much wider than long. The scape slender. Postmarginal and stigmal veins short. Ovipositor extruded. Mandibles with two equal acute teeth .. .. PARACALOCERINUS Girault.

Club 2-jointed. No ring-joint.

Form slender, depressed, the face directed dorsad; mandibular teeth acute; fore wings slender, the marginal vein punctiform, the stigmal longer; ovipositor inserted near tip of the long obtusely conical abdomen .. ..
SCELIOENCYRTUS Girault.
Compare NEANAGYRUS Girault and COCCIDOXENOIDES Girault.

Club 3-jointed.

Scape with a broad leaf-like expansion, broadly foliaceously dilated for its entire length.

Flagellum greatly compressed, flat.

Flagellum fusiform; axillæ meeting; marginal vein subpunctiform. Sometimes apterous. Head thin. Funicle joints wider than long. Wings abbreviated. Ovipositor extruded. Thorax weak .. .. .. ANUSIA Foerster.

The same but fully winged, the marginal vein over twice longer than wide, the postmarginal vein not much shorter, longer than the stigmal; frons moderately broad. Robust .. .. EPANUSIA Girault.

Flagellum not flattened, normal or nearly.

Flagellum very long, filiform, the funicle joints elongate.

Wings vestigial, the axillæ well separated (*weit von einander getrennt*). Postmarginal vein very short, the stigmal long, the marginal short and thick. No ring-joint .. .. DINOCARSIS Foerster.

Fully winged. Axillæ usually connate; marginal and stigmal veins subequal, moderately long, the postmarginal distinct, somewhat shorter, frequently subequal to marginal. Antennæ usually varicolored. Abdomen conic-ovate. One ring-joint. Nonmetallic. Mandibular teeth acute .. .. ..
EPIDINOCARSIS Girault.

Flagellum normal or short and thick.

Marginal vein punctiform or quadrate, the postmarginal variable; second tooth of mandible truncate.

Vertex normal, the flagellum cylindrical, normal.

Stigmal vein well developed, longer than the postmarginal .. .. ..
ANAGYRUS Howard.
Compare NEANAGYRUS Girault and male EPANAGYRUS Girault.

Vertex flat (the frons very prominent); funicle joints transverse-linear, the pedicel flattened. Stigmal vein moderately long. Club equal in length to the funicle.
PSEUDANUSIA Girault.

Marginal vein twice or more longer than wide.

Club greatly enlarged, twice or more the length of the funicle. Funicle joints subannular.

Hind tibial spurs double; second tooth of mandible truncate; marginal vein over twice the length of the stigmal. Frons rather narrow ..
BAOANUSIA Girault.

Club normal, the funicle normal.

Mandible with two acute teeth.

Hind tibial spurs single. Mandibles with two acute teeth; marginal vein about twice longer than wide, subequal to the stigmal. Flagellum clavate, the funicle joints wider than long, not annular .. .. HOLANUSIA Girault.

Hind tibial spurs double. Mandibles abnormal, acute but with a small tooth inwardly some distance proximad of tip. Marginal vein thrice longer than wide, longer than the stigmal. Funicle joints longer than wide, except distad .. .. .. ANUSOMYIA Girault.

Mandibles with the second tooth broadly truncate.

See description .. .. PARATETRALOPHIDEA Girault.

Scape normal or only compressed or else dilated only toward tip, not with a foliaceous expansion.

Pronotum large, a quarter to a half the length of the scutum. Postmarginal vein elongate.

Marginal vein punctiform. Mandibles with two acute teeth. Flagellum cylindrical. Robust. Hind tibial spurs double .. .. .. ANAGYRODES Girault.

See ECTROMA where the pronotum is described as *gross*.

Pronotum normal, transverse.

Marginal vein punctiform, or only slightly longer than wide, the stigmal normal, the postmarginal very short.

Axillæ normal.

Vertex normal, the frons not prominent.

Frons rather narrow or moderately so. Fore wings with an oblique hairless line. Scape slender, the flagellum normal.

Mandibles with the second tooth broadly truncate; axillæ a little separated. Stigmal vein plainly longer than the marginal .. .. COCCIDOXENUS Crawford.

Mandibles with the second tooth acute like the first; axillæ connate. Stigmal vein subequal to or longer than the marginal, longer than the postmarginal .. .. FULGORIDICIDA Perkins. Compare STENOPTEROPSIS Girault.

Frons broad.

Fore wings without an oblique hairless line.

Antennæ capitate, the scape slender; stigmal vein semicircular; axillæ meeting .. .. TAFTIA Ashmead.

Fore wings with an oblique hairless line.

Scape usually more or less distinctly dilated toward apex, the flagellum long, cylindrical; axillæ a little separated; stigmal vein normal .. TETRACNEMOIDEA Howard.

Vertex flat, the frons prominent.

Mandibles with two acute teeth; funicle joints transverse-linear, the funicle not as long as the club, the latter large. Oblique hairless line present .. .. EPISTENOTERYS Girault.

Axillæ widely separated.

Scape slender, the flagellum normal; second tooth of mandible truncate; marginal vein a little thickened, somewhat shorter than the stigmal; frons variable; face inflexed .. .. .. TETRACNEMELLA Girault.

Marginal vein distinctly longer than wide, usually much more so.

Axillæ distinctly separated.

Both teeth of mandibles acute.

Flagellum filiform; marginal vein linear, the postmarginal absent, the stigmal long and slender, subequal to the marginal. Face lenticular or convex AMENISCOCEPHALUS Girault.

Flagellum rather strongly clavate; stigmal and postmarginal veins subequal, two thirds the length of the marginal. Face inflexed .. .. .. PARASTENOTERYS Girault.

Second tooth of mandible broadly truncate.

Scape compressed, the club nearly as long as the funicle; stigmal vein short, the postmarginal still shorter. Face inflexed EPITETRACNEMUS Girault.

Axillæ connate or but slightly separated.

Abdomen compressed, distinctly longer than the rest of the body, the ovipositor prominently extruded.

Flagellum subclavate; stigmal and postmarginal veins very short, the marginal linear .. .. TINEOPHOCTONUS Ashmead.

Abdomen usual.

Scutellum with a tuft of hairs near apex.

Face inflexed; second tooth of mandible broadly truncate; marginal vein linear, thrice the length of the stigmal, the latter longer than the short postmarginal. Like *Cheiloneurus* .. CRISTATITHORAX Girault.

Scutellum naked at apex or practically so.

Antennæ long and slender, funicle 1 elongate, the other joints gradually shortening, 6 short.

Axillæ united, with a carina between them. Marginal vein longer than stigmal or postmarginal. Legs slender .. .. LEPTOMASTIX Foerster, STENOSTERYS Thomson.

Axillæ united. Marginal vein thrice longer than wide, the postmarginal elongate, over twice the length of the marginal, the stigmal shorter but much longer than the marginal. Hind legs compressed .. PARALEPTOMASTIX Girault.

Antennæ not especially long, usual.

Frons broad.

Marginal vein not much longer than the stigmal.

Postmarginal vein absent.

Head lenticular; marginal vein rather thick, about twice longer than wide; front legs compressed; mandibular teeth acute; flagellum clavate; scutum with short thickened setæ .. MENISCOCEPHALUS Perkins.

Postmarginal vein present, long.

Face inflexed; flagellum cylindrical; often wingless .. .. ERICYDNUS Walker.

Postmarginal vein short .. .. .. ERICYDNELLA Girault.

Marginal vein distinctly longer than the stigmal.

Stigmal and postmarginal veins short, less than half the length of the marginal. Wings usually fuscous, with white rays .. .. CALOCERINUS Howard, TETRALOPHIDEA Ashmead.

Frons narrow or moderate.

Stigmal vein twice the length of the marginal.

Marginal vein about twice longer than wide; postmarginal vein very short; antennæ clavate; the club much shorter than the funicle. Valves of ovipositor prominent .. .. TETRACNEMOPSIS Ashmead.

Stigmal vein only as long as or a little longer than the marginal.

Flagellum clavate. Wings variable .. .. HABROLEPOIDEA Howard, HABROLEPOPTERYX Ashmead.

Flagellum subcapitate or cylindrical.

Second tooth of mandible truncate; postmarginal vein very short ECHTHRODRYINUS Perkins.

Second tooth of mandible acute, shorter than the first; postmarginal vein as long as stigmal. Face inflexed .. .. ECTROMOIDES Girault, PARECTROMOIDES Girault.

Compare CHEILONEURELLA Girault and CHEILONEUROMYIA Girault.

Apterous or subapterous.

Antennæ 11-jointed, the club 3-jointed.

Axillæ separated, the scutellum between them with two foveæ.

Scape extending beyond the ocelli, the flagellum cylindrical; pronotum large. Frons broad .. .. ECTROMA Westwood.

Axillæ the same but scutellum without two foveæ between them, the scutellum lunate.

Frons rather narrow. Flagellum cylindrical .. .. .. BAOCHARIS Mayr.

Axillæ the same. Flagellum compressed. Ovipositor much exserted. Scutellum subtriangular, rounded at apex. Abdomen strongly compressed .. .. HEMICOPYGUS Ashmead.

Axillæ the same; scape greatly foliaceously dilated. Scutellum acute at apex .. .. DINOCARSIS Foerster.

See ERICYDNUS, MEROMYZOBIA, ANUSIA.

The genus *Calocerineloides* Girault, male, is not included in the table.

In the Encyrtinæ, there are three or four kinds of heads: (1) The inflexed or normal in which the vertex is normally rounded, the antennal scrobes present, the ventral half of the face depressed, the outline of the head usually circular (cephalic aspect), the frons broad or narrow; (2) the kind in which the frons is prominent (from lateral aspect especially), the inflexion very great, the vertex flat and abruptly declivous so that from lateral aspect it forms the base of a more or less distinct triangle; (3) the lenticular or convex-lens-shaped head, characterized by the face not being inflexed, the scrobes absent or very short, the whole surface a regular convexity (the occiput usually a regular concavity); and (4) the head which is plainly longer than wide as viewed from the cephalic aspect (normal position).*

* Like the head of an ant or a *Spalangia*. The frons is considered *broad* when the distance between the eyes is great or normal, the eyes wide apart and *narrow* when they are much converged so that the vertex is linear caudo-cephalad, or more or less so. A *moderate* frons is therefore the state more or less between these two extremes.

The following encyrtids have been described or recorded from Australia, besides those in foregoing:

Coccophoctonus dactylopii Ashmead.

Aphycus alberti Howard.

Aphycus australiensis Howard.

Heterarthrellus australiensis Howard.

Encyrtus arsanes, cheles, lucetius, odacon, pacorus, salacon, xuthus, zameis and *zebina* of Walker.

Chirolophus koebelei Ashmead.

Myrmecomimesis nigricans Walker.

Eupelmus dodone Walker.

Eupelmus howardi Olliff.

Tineobius citri Ashmead.

Walker records *Eupelmus urozonus* Dalman from Sydney and King George's Sound.

Of the foregoing, Walker's species seem hopeless from the descriptions which do not relate, apparently, to species of *Encyrtus*. *Eupelmus dodone* Walker does not seem to be an *Eupelmus*. The other descriptions have not been available.

This most fascinating group must have many more species and genera in the Australian fauna. The species seem rather widely distributed. The group will repay careful study. The abdomen of the Eupelminæ shrivels; the Aphelininæ are better preserved in xylol-balsam.

AUSTRALIAN HYMENOPTERA CHALCIDOIDEA—VIII.*

The Family Miscogasteridæ with Descriptions of New Genera and Species.

By A. A. Girault.

The forms do not seem numerous in the Australian fauna.

Family MISCOGASTERIDÆ.

Subfamily TRIDYMINÆ.

Tribe TRIDYMINI.

Genus GASTRANCISTRUS Westwood.

1. GASTRANCISTRUS MENÆTES (Walker).

Miscogaster menætes Walker; male, 1839, pp. 20-21.

2. GASTRANCISTRUS ROBERTSONI new species.

Female:—Length, 1 mm. excluding the ovipositor, the latter extruded for a sixth the length of the abdomen.

Metallic purple, the wings hyaline; middle tibiæ pallid dusky; tarsi white. Thorax scaly, the propodeum more delicately so. Funicle joints all a litte wider than long, 2 quadrate, shorter than the pedicel. Hind wing with about eight lines of discal cilia. Much like *Tetracampoides* of A. P. Dodd of the Eulophidæ. Antennæ 12-jointed, the funicle 5-jointed, two short ring-joints; they are inserted nearly at the mouth border, ventrad of the ends of the eyes; head oblong as in *Spalangia*, the abdomen short yet conic-ovate and produced beneath at apex, the ovipositor distinctly extruded a short distance. Marginal vein a little shorter than the submarginal and only two and a half times the length of the rather long stigmal, the postmarginal slightly longer than the stigmal. Submarginal vein distinctly broken. Mandibles 4-dentate, the teeth long, the outer distinctly the longest, slender. Parapsidal furrows distinct, curving off laterad before reaching the transverse pronotum. Propodeum with a median carina only. Abdomen sessile. Scutellum simple. Propodeal spiracle minute, round, at cephalic margin.

Described from one female captured by sweeping on forest sand-ridges near coast, Tweed River, May 9, 1914 (A. P. Dodd).

Habitat: Chindera, New South Wales.

Type: No. *Hy 3163*, Queensland Museum, Brisbane, the specimen on a tag; head, pair of wings and a hind tibia on a slide.

Respectfully dedicated to F. W. Robertson.

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* Contribution No. 31, from the Entomological Laboratory, Bureau of Sugar Experiment Stations, Bundaberg, Queensland.

Genus SEMIOTELLUS Westwood.

1. SEMIOTELLUS DICE (Walker).

Miscogaster dice Walker, male, 1839, p. 24.

2. SEMIOTELLUS THEOPE (Walker). Male; female.

Miscogaster theope Walker, 1839, p. 25.

Genus ASEMANTUS Foerster.

1. ASEMANTUS CECIDOMYIÆ Ashmead. Female; male.

Length, 2.4 mm. Metallic bronzed green, finely, closely punctate; head with some thimble-like punctures along anterior orbits and on vertex; mesopleura blue, almost smooth; scrobes distinct, semicircular; antennæ brown-black, scape æneous black, flagellum subclavate, sparsely pubescent, funicle joints longer than thick. Parapsidal furrows distinct, entire; thorax abruptly truncate anteriorly, the pronotum not visible from above except slightly at lateral angles; scutellum large, axillæ widely separated. Legs yellow, coxæ except at tips, metallic; trochanters, tarsi and tibiæ yellowish white. Wings hyaline; marginal, postmarginal and stigmal veins light brown, the marginal being very long, fully four fifths the length of submarginal vein; postmarginal half the length of marginal; stigmal a little shorter than the marginal and ending in a rounded knob. Abdomen conically elongate and about one third longer than head and thorax united.

Male measures 1.8 mm. Blue to bluish green; flagellum long, filiform, the joints more than twice as long as thick, the first and second fully thrice as long as thick; legs, except middle and hind coxæ, wholly yellow; abdomen oblong, depressed and scarcely as long as thorax.

Habitat: Sydney, New South Wales. On *Cecidomyia frauenfeldti.*

Type: No. *4888*, United States National Museum, Washington, D.C., U.S.A.

Genus SYSTASIS Walker.

This genus is similar to *Paruriella* of the Pteromalidæ.

1. SYSTASIS VARIPES new species.

Female:—Length, 2 mm.

Æneous green, the wings hyaline, the coxæ, first two pairs of femora at middle ventrad and hind femur except at apex, concolorous, also the antennæ. Legs otherwise reddish brown including the trochanters, the tips of tibiæ and tarsi white. Vertex with shallow thimble punctures, rest of head scaly. Abdomen darker. Funicle joints subequal, 5 quadrate, barely shorter than 1, the latter a little shorter than the pedicel, slightly longer than wide. Mandibles tridentate, maxillary palpi white. Club 1 quadrate. Postmarginal vein a little longer than the stigmal. Thorax densely, rather finely punctate, the scutum and scutellum with traces of obscure larger punctures. Propodeum moderate in length, distinctly tricarinate, the lateral carina at apex running strongly mesad along caudal margin and also laterad and so up lateral margin but more weakly. Abdomen longer than the thorax, scaly.

From one female from the Queensland Museum collections, October 11, H. Hacker, collector.

Habitat: Brisbane, Queensland.

Type: No. *Hy 3164*, Queensland Museum, Brisbane, the specimen on a tag; hind tibiæ and head on a slide.

2. SYSTASIS HENRICI Girault. Female.

Length, 2.10 mm.

Dark metallic æneous green, reticulately punctate, the thorax also with obscure thimble punctures. Wings hyaline. Legs brownish yellow, the cephalic femora washed with metallic green, the posterior femora darker at the middle and submetallic; antennæ dusky black, 12-jointed, with two ring-joints, the club 3-jointed, the funicle joints subquadrate, the first longest, slightly shorter than the pedicel; postmarginal vein somewhat longer than the stigmal. Mandibles 5-dentate, the three inner teeth minute. Propodeum tricarinate, the scutellum without a cross-furrow. Ovipositor not exserted.

Habitat: King Island, Tasmania.

Type: No. *I. 1344*, South Australian Museum.

3. SYSTASIS GROTIUSI new species. Female.

Length, 1.75 mm.

Like *henrici* but the mandibles without two small inner teeth and all femora and tibiæ are concolorous, the knees and tips of tibiæ broadly yellow. Propodeum short at the meson. Robust and with the habitus of *Ormyrus*. A few punctures on upper face and vertex and the fore tibiæ are mostly yellowish.

Habitat: Gordonvale (Cairns), Queensland. Forest, May and December 2, 1912.

Type: No. *Hy 3165*, Queensland Museum, Brisbane, a female on a tag, the head and hind legs on a slide.

4. SYSTASIS SEPOSITUS new species. Female.

Length, 1.40 mm.

Bright metallic blue-green, the funicle joints except the first wider than long, the first quadrate and twice or less the length of the second which is shortest. Otherwise like *grotiusi*. Club enlarged, ovate. Pedicel longer than any of the funicle joints. In *grotiusi*, the *three* distal funicle joints are wider than long and the scape is longer. In *sepositus* the complete median carina is very short, the propodeum short. Thus very similar to *grotiusi* but the antennæ are shorter, the flagellum brown (black in *grotiusi*) and the second funicle joint distinctly shorter than the first. Abdomen slender, conic, longer than the thorax.

The propodeum is short and with a median carina in both species and the sculpture is identical; but the hind wings in *grotiusi* are broader.

Habitat: Capeville (Pentland), Queensland. Forest, January 8, 1913.

Type: No. *Hy 3166*, Queensland Museum, Brisbane, a female on a tag, the head and hind legs on a slide.

5. SYSTASIS INSULARIS new species of A. P. Dodd and Girault. Female.

Length, 1.90 mm.

Brilliant metallic green, the coxæ and femora concolorous; knees, tibiæ and tarsi white, the tibiæ yellowish centrally, the antennæ black, the scape brownish. Thorax densely finely reticulate-punctate. Propodeum somewhat finer, short, broad, with a median carina, the lateral carina present, abbreviated anteriorly, the spiracle rounded, the spiracular sulci faintly indicated. Abdomen somewhat longer than the thorax, wholly finely scaly and with whitish scattered pubescence; second segment occupying over a third of the surface. Wings hyaline; marginal vein over twice as long as stigmal, the postmarginal a half longer than stigmal. Pedicel a little shorter than first funicle joint which is a half longer than wide, the others subequal, slightly longer than wide; club joints a little wider than long.

Habitat: Thursday Island, Torres Strait. Forest, March 11, 1912.

Type: No. *Hy 3167*, Queensland Museum, Brisbane, a female on a tag; head and hind legs on a slide.

6. SYSTASIS PUNCTATIVERTEX new species.

Female:—Length, 2 mm.

Like *insularis* but the tibiæ concolorous also except the cephalic tibiæ which are washed with metallic green dorsad; antennæ wholly black æneous, the funicle joints all a little longer than wide, somewhat shorter than the pedicel and subequal to each other. Vertex and upper face with numerous thimble punctures. Propodeum not seen. Second and third teeth of mandibles not very well differentiated, short, obtuse, the division between them rather shallow. Postmarginal vein distinctly longer than the stigmal. Tips of tibiæ whitish.

Described from one female taken from a window, March 18, 1914.

Habitat: Gordonvale (Cairns), Queeensland.

Type: No. *Hy 3168*, Queensland Museum, Brisbane, the fore wings, head and hind tibia on a slide.

TRYDYMIFORMIS new genus.

A genus differing from *Trydymus* Ratzeburg in the structure of the clypeus and from other genera of its tribe in the normal venation, 12-jointed antennæ and their insertion and so on.

1. TRYDYMIFORMIS AUSTRALIENSIS new species. Female. Genotype.

Length, 1.75 mm. Steel blue, metallic, the wings hyaline, the legs concolorous except all of tibiæ and the four proximal tarsal joints which are white. Reticulated and with scattered minute setigerous punctures, the abdomen densely reticulated, except the second segment which is glabrous and occupies about half of the surface. Abdomen depressed, ovate, as long as the thorax, segment 7 longer than segments 3-6 united, the latter transverse. Abdomen pilose. Propodeum with a strong median carina. Mandibles small, bidentate. Antennæ 12-jointed, concolorous to black, inserted below the middle of the face, one ring-joint, the club 3-jointed, the distal one terminating in a distinct spinelike seta. Funicle joints transverse, all shorter than the pedicel, the first longest and narrowest, the last three subequal. Propodeum glabrous. Marginal vein subequal to the submarginal, the stigmal shorter than the postmarginal. Clypeus not produced at meson, there gently concaved.

Habitat: Gordonvale (Cairns), Queensland. Jungle, June 14, 1913.

Type: No. *Hy 3169*, Queensland Museum, Brisbane, a female on a tag, the head and hind legs on a slide.

NEOSYSTASIS new genus.

Female:—Runs to *Systasis* Walker, the antennæ inserted *above* the middle of the face but the first funicle joint is elongate, the postmarginal vein elongate, over twice the length of the stigmal, the abdomen long and conical, longer than the rest of the body, the thorax is finely polygonally lined and with scattered umbilicate punctures. Mandibles with two acute teeth. Antennæ 12-jointed.

1. NEOSYSTASIS UMBILICATUS new species. Genotype.

Female:—Length, 1.85 mm.

Dark metallic blue, the head, scutellum and abdomen purple, the legs straw yellow (hind coxa metallic at base); also the scape, the club suffused with whitish. Fore wings distinctly infuscated, the infuscation taking the shape of an obscure midlongitudinal line which diffuses over the blade from each side. Marginal fringes very short. Hind wings knife-shaped, rather narrow, the margin subparallel, the apex blunt. Funicle 5 a little longer than wide, 4 distinctly longer than wide, a little longer than the pedicel, 3 and 2 each longer in succession proximad, 1 a fourth longer than 2, subequal to proximal two club joints combined. Scape moderately long, slender. Face with scattered thimble punctures, rather numerous; punctures numerous on whole of mesonotum but a median path down scutellum, slightly broadening distad, narrow proximad, free of punctures. Axillæ not advanced, with only one or two punctures; punctures

of moderate size, setigerous, the setæ very short. Propodeum rather short, with a distinct median carina which is short and broad, forking strongly at apex, running along the caudal margin. Spiracle at the cephalic margin, round, small, in a more or less obscure impression whose caudal margin is subcarinated. Propodeum finely scaly, impunctate. Abdomen also finely scaly, none of the segments greatly lengthened. Parapsidal furrows deep, complete. Legs slender.

From one female captured in jungle, May, 1913 (A. P. Dodd).

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 3170*, Queensland Museum, Brisbane, one female on a tag; hind legs and antennæ on a slide.

2. NEOSYSTASIS ORMYROIDES new species.

Female:—Length, 1.80 mm. With the habits of *Ormyrus*.

Brilliant coppery, the wings slightly uniformly infuscated throughout. Legs white except the sides of cephalic coxæ and the hind coxæ which are concolorous; cephalic femora and tibiæ and caudal femur above, pinkish orange. Mandibles with three well-developed, acute teeth. Scape and pedicel yellowish brown; rest of antenna black but the club a little whitish. Venation brown. Head with numerous, scattered punctures; also the dorsal thorax except the propodeum. Scutellum rather broadly at meson from a little cephalad of middle, without punctures. Scutum and scutellum with a short greyish pubescence. Thorax finely scaly reticulated, the abdomen a little more coarsely so. Propodeum similarly sculptured, very short at the meson, nearly hidden from above by the scutellum, widening laterad, the median carina not distinct. Funicles 4 and 5 subequal, each a little wider than long, 2 and 3 subequal, each a little longer than wide; funicle 1 somewhat longer than wide, subequal to the pedicel, distinctly shorter than with the genotype.

Described from a single female captured in the jungle, July 31, 1914 (A. P. Dodd).

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 3171*, Queensland Museum, Brisbane, the specimen on a tag; head, hind legs and a fore wing on a slide.

In this genus, the submarginal vein is broken. In the genotype, the median carina of the propodeum is short yet distinctly longer than wide and a lateral carina is indicated from caudad.

Genus EPITEROBIA Girault.

Female:—Agreeing with *Terobia* Foerster but the scutellum with a distinct cross-suture before apex and the marginal vein is fully twice the length of the stigmal, which is distinctly shorter than the postmarginal. Both mandibles flattened, distinctly 4-dentate. Abdomen conic-ovate, keeled beneath, the second segment longest, occupying about a fifth of the surface, its caudal margin with a slight notch at the meson; abdomen somewhat longer than the rest of the body. Antennæ inserted below the middle of the face but somewhat above the ventral ends of the eyes, the first ring-joint very short. Lateral margins of propodeum carinated, but true lateral carinæ absent, the median carina distinct, not very long, complete. Spiracle small, round, *central* (*i.e.* midway between cephalic and caudal margins, far from cephalic margin). Parapsidal furrows deep.

1. EPITEROBIA RETICULATITHORAX Girault. Genotype.

Female:—Length, 1.15 mm. Dark coppery green, the wings hyaline, the thorax finely reticulated, the lines not raised, smooth on scutellum caudad of cross-suture; propodeum glabrous. Coxæ concolorous, the femora also, the knees, tibiæ and tarsi pale. Mandibles somewhat like an outspread hand with the last finger-joints turned down and the thumb hidden. Antennæ pale yellowish, the pedicel above at base and the club dusky. Club somewhat enlarged; funicle joints subglobular, wider than long, increasing somewhat in size distad but always

shorter than the pedicel, which is a little longer than wide. Club apparently with a minute apical fourth joint (excluding this, antennæ 13-jointed with two ring-joints).

Described from one female captured by sweeping in forest, December 2, 1912 (A. P. Dodd).

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 3172*, Queensland Museum, Brisbane, the above specimen on a tag, the head and a hind leg on a slide.

A second female, type habitat, May 27, 1914.

Tribe METASTENINI.

METASTENOIDES new genus.

Form short, robust, the head large, from cephalic aspect rounded, the antennæ inserted in the middle of the face, 13-jointed, three ring and club joints. Clypeus emarginate at meson. Mandibles 3- and 4-dentate. Postmarginal and stigmal veins long, the former longer than the latter, nearly as long as the rather short marginal. Scutellum simple. Pronotum distinct, transverse. Propodeum conical, without a median carina, the lateral carinæ present and a foveate, irregular, short spiracular sulcus, the spiracle narrow, long-reniform. A large transverse fovea at cephalic margin of propodeum just mesad of lateral carina. Abdomen short, depressed ovate, the second segment longest, occupying a little less than a fourth of the surface, the others shorter but not transverse-linear.

1. METASTENOIDES SIMUS new species. Female. Genotype.

Length, 2.70 mm.

Bronze, the wings hyaline, the abdomen dark green, legs (except the concolorous hind coxa, others not noted) reddish; the knees, tips of tibiæ and tarsi white. Antennæ reddish, the first funicle joint longer than the pedicel, longest of the funicle, the others shortening, joint 1 nearly twice longer than wide; funicle 5 slightly longer than wide. Scape long and slender. Head and thorax densely punctate. Distal half of hind tibiæ white.

Habitat: Kuranda, Queensland. Jungle, September 15, 1913.

Type: No. *Hy 3173*, Queensland Museum, Brisbane, a female on a tag, the hind tibiæ and antennæ on a slide.

Genus ARTHROLYSIS Foerster.

1. ARTHROLYSIS FLAVIVENTRIS new species of Girault and A. P. Dodd. Female.

Length, 3.25 mm.

Head and thorax dark metallic blue, the cephalic coxæ concolorous; anterior femora black-brown; rest of legs golden yellow; abdomen with a longitudinal stripe running down each lateral margin from base to two thirds length and a median stripe from one sixth length to two thirds length, brown; apex of abdomen black, rest golden yellow; antennæ wholly brownish yellow. Wings hyaline, long and broad, the venation yellow; marginal vein one third longer than postmarginal, the latter twice as long as the rather long stigmal vein. Abdomen conic-ovate, depressed above, convex beneath, as long as the head and thorax combined, its second segment occupying one fourth of the surface, 3 and 4 subequal, together equal to 2, 4-6 gradually lengthening, 6 as long as 2. Pronotum distinctly separated; parapsidal furrows only indicated anteriorly; scutellum as long as wide, simple; propodeum moderate in length, punctate, without carinæ or sulci. Thorax densely umbilicately punctate and with a few scattered hairs. Mandibles 4-dentate. Antennæ inserted about on the middle of the face, 13-jointed with two ring-, three club joints; pedicel distinctly longer than wide,

the funicle joints long and slender, 1 nearly twice as long as the pedicel, 2-6 gradually shortening, 6 a little longer than the pedicel; club no longer than funicle 1, without a terminal spine.

Habitat: Kuranda, Queensland. Forest (1,500 feet), September 16, 1913 (A. P. Dodd).

Type: No. *Hy 3174*, Queensland Museum, Brisbane, a female on a tag, the head and hind legs on a slide.

2. ARTHROLYSIS TRILONGIFASCIATA new species.

Female:—Length, 3 mm.

Very similar indeed to *flaviventris* Girault and Dodd but somewhat more slender and all of each leg is golden yellow; the median stripe of abdomen extends distinctly distad of the distal ends of the marginal stripes (the distal ends of the three stripes even in the first species) and each end of it is about equally distant from base and apex (in the first species, the distal end is farther from apex than the proximal is from base). Also, the club is distinctly longer than funicle 1; funicles 1-4 subequal, about twice the length of the pedicel; funicle 6 somewhat longer than wide. Scape and pedicel golden yellow; rest of antenna black. Mandibles 4- and 5-dentate. Sculpture coarse, uniform scaly punctation over the entire thorax (closer, denser, the punctures small, roundish in *flaviventris*). Both species blue-black with a saddlelike neck on propodeum and with the parapsidal furrows obsolete or nearly.

Described from one female captured by sweeping in the forest, May 8, 1914.

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 3176*, Queensland Museum, Brisbane, the female on a tag with type *flaviventris*; an antenna and a hind leg on a slide.

3. ARTHROLYSIS MIRIFICUS new species.

Female:—Similar to *flaviventris* G. and D. but the marginal stripes of abdomen extend from base nearly to apex, the median stripe is correspondingly longer, its apex even with the apex of the marginal stripes and a little nearer to apex of abdomen than the proximal end is to its base (distinctly the other way round in *flaviventris*). Also, the three stripes are more distinctly broken at each segmental incision. Otherwise similar to the named species. Antennal club not seen.

Described from one female captured by sweeping in the forest, August 14, 1914.

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 3177*, Queensland Museum, Brisbane, the female on a tag.

A second female was captured September 20, 1914 by sweeping grass in forest, at Capeville (Pentland), Queensland.

The three species greatly resemble *Apirene longifasciata* Girault with which they have been compared.

HABRITELLA new genus of Girault and A. P. Dodd.

Female:—Antennæ inserted above the middle of face, 13-jointed, with three ring, three club joints; funicle joints not lengthened, club without a terminal spine. Mandibles 4-dentate. Antennal scrobes not defined. Head no wider than the thorax, not much wider than long. Pronotum short, distinctly separated. Scutum much wider than long, parapsidal furrows half complete. Scutellum simple. Axillæ widely separated. Propodeum not long, with a short neck; median carina absent; lateral carinæ distinct, branching in two, one branch running to caudal margin mesad, the other to caudal margin laterad. Spiracle small, round; no spiracular sulcus. Marginal vein twice as long as the stigmal; postmarginal a little longer than the stigmal, the latter with a large knob. Abdomen conic-ovate, nearly straight above, convex beneath; sessile; second segment narrowed; third deeply incised at meson of caudal margin, the incision reaching back to caudal margin of second segment; 4 longer than 2 and 3 united, occupying over one half of the surface; remaining segments short. Hind tibiæ with two short apical spurs.

1. HABRITELLA GRACILIVENTRIS new species of Girault and A. P. Dodd.

Female:—Length, 1.70 mm.

Dark metallic blue, the coxæ and femora concolorous; second and third segments of abdomen brilliant blue-green; knees, tibiæ, tarsi and antennal scape golden yellow; rest of antennæ black. Wings hyaline, the venation fuscous. Thorax, including propodeum, densely punctate; the abdomen smooth. Pedicel slightly longer than first funicle joint which is a little longer than wide; 5 quadrate; club no longer than two preceding joints united, the first two joints subequal, the third shorter. Abdomen slender, narrower than the thorax.

Described from one female caught by sweeping in forest, summit of second coast range, 1,500 feet, May 29, 1913 (A. A. Girault).

Habitat: Northern Queensland (Gordonvale near Cairns).

Type: No. *Hy 3175*, Queensland Museum, Brisbane, a female on a tag, the head and hind legs on a slide.

Genus AMICROMELUS Girault.

This genus belongs here, not where formerly placed.

Similar to *Micromelus* Walker but funicle 1 is a little longer than the pedicel, segment 2 of abdomen not more than a fifth the length of the abdomen, the antennæ only 12-jointed, the club but 2-jointed the second joint terminating in a distinct spur. Marginal vein longer than the stigmal, the abdomen longer than the thorax, the ovipositor not exserted. Propodeum with a fovea on each side at cephalic margin midway between the meson and the oval spiracle.

1. AMICROMELUS CYANEUS Girault. Genotype.

Female:—Length, 2.20 mm.

Dark metallic blue, the abdomen above dark coppery, the wings hyaline, the venation pale; coxæ and femora concolorous, the knees, tibiæ and tarsi pale, nearly white; thorax with a white pubescence somewhat as in *Aplastomorpha*. Head and thorax densely punctate, including the propodeum; abdomen microscopically sculptured. Antennæ capitate, the distal funicle joint just a little longer than wide, the whole dusky brownish, the club brown. Corrected description.

Described from three females captured by sweeping in a forest, May 5, 1913.

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 3178*, Queensland Museum, Brisbane, one of the above on a tag and a slide with parts of the others and the appendages.

There are two ring-joints and no carinæ on the propodeum. Mandibles 3- and 4-dentate, the 3-dentate one with its third tooth broad, incised at middle. Antennæ inserted slightly below the middle of the face, the scape very long, slender. Types re-examined. Compare *Neocaudonia* Dodd of the Cleonyminæ.

Subfamily PIRENINÆ.

Genus APIRENE Girault.

Head somewhat wider than long (cephalic aspect), the antennæ inserted high up, above the middle of the face, the scape extending above the vertex—11-jointed with two ring-joints, the club solid and terminating in a nipple-like projection, the funicle joints long, the first plainly more than twice the length of the short pedicel and twice the length of the distal funicle joint. Maxillary palpi with at least three joints. Postmarginal and stigmal veins well developed, the former a third longer. Parapsidal furrows obscure, only about half complete (from cephalad). Abdomen subsessile, ovate, depressed above, produced ventrad beneath, the ovipositor not exserted. Propodeum with neither spiracular sulci nor carinæ, the spiracle not large, oblong. Second abdominal segment longest. Posterior tibiæ with two spurs.

Non-metallic. Eyes naked. Pronotum as seen from above, transverse-linear, widening laterad, normal. Segment 2 of abdomen occupying about a fifth of the surface, notched at meson caudad; no petiole. Pronotum well separated.

1. APIRENE LONGIFASCIATA Girault. Female. Genotype.

Length, 2.60 mm.

Black, the abdomen honey yellow and with a long broad black stripe down each side from base to apex; coxæ black, the legs fuscous, tips of tibiæ and most of the tarsi paler, the cephalic femora darker, washed with more or less blackish. Wings hyaline. Head and thorax densely but not deeply punctate, the propodeum less rough, polygonally reticulated, the abdomen all similarly reticulated but more delicately. Face with converging striæ above the clypeus. Second and third funicle joints subequal, the third, fourth and fifth each shortening. Scape and pedicel fuscous; ring-joints yellowish, the funicle yellow, suffused with dusky.

Habitat: Gordonvale (Cairns), Queensland. Forest, December, 1912.

Not uncommon.

Types: No. *Hy 3179*, Queensland Museum, Brisbane, two females on tags (two pins); head on a slide.

EROTOLEPSIELLA new genus.

Running to *Erotolepsia* Howard but the stigmal and postmarginal veins extremely long, subequal, each over three fourths the length of the marginal, the antennal pedicel somewhat shorter than the solid club, the eyes naked or nearly so. There is a single ring-joint and the first funicle joint is subquadrate and narrower than the others, the second and third joints longest. Fore wings banded. Cephalic femur somewhat swollen but simple. Mandibles tridentate. Parapsidal furrows complete, delicate. Abdomen pointed conic-ovate, segment 2 longest but occupying only about a third of the surface, its caudal margin entire. Propodeum with a neck but no carinæ, rugose, the scutellum with a not very distinct cross-furrow before apex. Abdomen with a short stout petiole. Antennæ 11-jointed. With the habitus of the Pteromalidæ.

1. EROTOLEPSIELLA BIFASCIATA new species. Female. Genotype.

Length, 1.80 mm.

Purplish brown, the tip of abdomen ringed narrowly with white, the distal part of metathorax and the short abdominal petiole also white. Legs concolorous, the tarsi yellowish white, the antennæ concolorous. Fore wings with two conspicuous black-brown bands across them, the first narrow and from the bend of the submarginal vein, the second very broad and from the stigmal vein. Thorax punctate.

Habitat: Babinda, Queensland. Jungle. October 28, 1911.

Type: No. *Hy 3180*, Queensland Museum, Brisbane, a female on a tag, the head and caudal tibiæ on a slide.

EROTOLEPSIOPUS new genus.

Female:—Form short. Head wider than long, the antennæ inserted on a level with the ventral ends of the eyes, capitate, the club short, obliquely truncate, 3-jointed; eleven joints with one ring-joint, the funicle joints after the subquadrate first, wider than long and subpedunculate. Mandibles slender, with three long teeth. Parapsidal furrows complete, deep. Pronotum transverse. Scutellum with a punctate cross-groove just before apex. Propodeum polished, with a median carina only, the spiracle small, round. Axillæ large, widely separated. Second abdominal segment occupying a little over a third of the surface, the others much shorter than it. Marginal vein short, less than half the length of the submarginal, the stigmal not long, two thirds the length of the marginal, the postmarginal somewhat longer than the stigmal.

1. EROTOLEPSIOPUS SUBSOLANUS new species. Genotype.

Female:—Length, 1.35 mm.

Metallic purple, the base of abdomen dorsad and the propodeum dark bluish green, the wings hyaline. Legs and antennæ straw yellow, the coxæ metallic, concolorous. Propodeum with foveæ along cephalic margin. Thorax reticulately scaly, the lines not raised. Scape cylindrical, moderate in length; joints 2-5 of funicle gradually widening. Third club joint very flat, the first forming nearly half the enlarged club. Pedicel oval. Hind tibial spurs normal. Legs simple. First femora subfuscous, a little compressed. Funicle 1 shorter than pedicel, a little wider than long, longest and narrowest of the funicle.

Described from one female captured by sweeping in jungle, July 24, 1913.

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 3181*, Queensland Museum, Brisbane, the specimen on a tag.

PARAEROTOLEPSIA new genus.

With the habitus and structure of *Pteromalus* but the antennæ are inserted on a level with the ventral ends of the eyes or nearly and are 11-jointed with one rather short ring-joint, the club 3-jointed; the postmarginal vein is only slightly longer than the stigmal, of average length, the marginal somewhat less than twice the length of the stigmal; the propodeum is short, with a distinct median carina and no others; parapsidal furrows complete, no spiracular sulci. Segment 2 of abdomen occupying a little over a fourth of the surface. Scutellum with a punctate cross-suture before apex. Mandibles 4-dentate. Maxillary palpi 4-jointed. Second division of club not very distinct. Differs from *Erotolepsiopus* Girault in the shorter, 4-dentate mandibles, the cylindrical funicle and the rounded head. Propodeal spiracle round, cephalad.

1. PARAEROTOLEPSIA AURIPES new species.

Female:—Length, 1.50 mm. Habitus of a species of *Pteromalus*.

Dark metallic prussian blue, the legs golden yellow except coxæ, the wings hyaline, the venation golden yellow. Thorax densely, finely scaly punctate, the propodeum shining, showing no trace of coarser polygonal scaliness, æneous green except along the median carina. Abdomen scaly. Pubescence not conspicuous. Scape golden yellow, rest of antenna dark brown, the club lighter. Funicle 1 somewhat longer than wide, subequal to the pedicel, 5 a little wider than long. Club about two thirds the length of the funicle. Third tooth of mandible smallest.

From one female caught in forest (swamp), May 14, 1914 (A. P. Dodd).

Habitat: Chindera (Tweed River), New South Wales.

Type: No. *Hy 3183*, Queensland Museum, Brisbane, the specimen on a tag.

Subfamily MISCOGASTERINÆ.

Tribe MISCOGASTERINI.

Genus TOXEUMA Walker.

1. TOXEUMA PAX new species. Female.

Length, 0.70 mm.

Like species of *Toxeuma* but the antennæ apparently only 12-jointed with one ring-joint, club 3-jointed, the distal joint terminating in a nipple-like seta. Mandibles weak, with two teeth. Scutellum with a cross-furrow before apex. Abdomen depressed above, conic-ovate, not as long as the thorax, the petiole distinct, moderate in length. Propodeum with a median carina (lateral carinæ not observed, may be present). Marginal vein nearly as long as the submarginal, the postmarginal well developed, a little more than thrice the length of the

rather short stigmal. Abdominal segment 2 longest, together with 3 occupying two thirds of the surface. Parapsidal furrows complete. The ring-joint in one antenna appeared to be divided.

Dark metallic green, the wings hyaline, the legs except hind coxæ which are more or less concolorous, straw yellow; scape straw yellow, the flagellum black. Pedicel wider than the filiform funicle, the club still wider; joints 2 and 3 of funicle subequal, each nearly as long as the pedicel, all the funicle joints longer than wide, the sixth or last shortest, the first subequal to the pedicel. Thorax reticulated.

Habitat: Gordonvale (Cairns), Queensland. Jungle, June 16, 1913 (A. P. Dodd).

Type: No. *Hy 3182,* Queensland Museum, Brisbane, the female on a tag, the head and caudal tibiæ on a slide.

TOXEUMORPHA new genus.

Like *Toxeuma* Walker but the scutellum without a cross-furrow, the mandibles strongly 4-dentate. The three carinæ of the rather long, punctate propodeum are obtuse and much as in *Pachycrepoideus.* Antennæ 13-jointed with two ring-joints. Pronotum transverse. Segments 2 and 3 of abdomen occupying four fifths of the surface, long, subequal.

1. TOXEUMORPHA NIGRA new species. Female. Genotype.

Length, 1.65 mm.

Black with a faint suffusion of green, the wings hyaline; legs and venation yellow-brown, the coxæ jet black; postmarginal vein a little longer than the stigmal, shorter than the marginal. Thorax finely punctate. Antennæ black, the scape, pedicel and two ring-joints yellow-brown, the funicle joints all much shorter than the pedicel, the distal three a little wider than long, 2 and 3 quadrate, 1 a little longer than wide and narrower than the others.

Habitat: Brisbane, Queensland. From a window in a wool-house, October 3, 1911.

Type: No. *Hy 3184,* Queensland Museum, Brisbane, a female on a tag, the hind legs and head on a slide.

Genus TOXEUMELLA Girault.

1. TOXEUMELLA PULCHRIPES new species of Girault and A. P. Dodd.

Length, 2.60 mm. Short and stout.

Agreeing with the generic description except that the propodeum lacks the median carina.

Bright metallic coppery green, the abdomen polished; coxæ concolorous, femora and tibiæ bright yellowish reddish; the knees, distal half of posterior tibiæ and the tarsi pale straw yellow; antennal scape bright reddish; rest of antennæ yellow suffused with dusky. Wings hyaline; venation golden yellow, the marginal vein a half longer than the long stigmal, the postmarginal nearly as long as the marginal. Head and thorax densely punctate, the propodeum slightly more finely so. Propodeum short and broad, with lateral carinæ. Parapsidal furrows complete. Head large, a little wider than the thorax. Abdomen compressed above, convex beneath, no longer than the thorax, the petiole short and stout; second abdominal segment occupying almost half the surface, remaining segments subequal. Mandibles 3- and 4-dentate. Antennæ 13-jointed with three ring- and three club joints; funicle 1 distinctly longer than pedicel, almost twice as long as wide, 2 subequal, 3-5 shortening, 5 almost quadrate; club scarcely longer than funicle 1, its first joint as long as the other two combined.

Habitat: Kuranda, Queensland. Jungle (1,100 feet), September 16, 1913 (A. P. Dodd).

Type: No. *Hy 3185,* Queensland Museum, Brisbane, the female on a tag, the head and hind legs on a slide.

2. TOXEUMELLA DISSIMILIS new species of A. P. Dodd and Girault.

Female:—Length, 2.75 mm.

Very dark metallic green, the coxæ concolorous, the femora brown, the tibiæ, tarsi, antennal scape, pedicel, first two ring-joints, golden yellow; rest of antennæ black. Head not large, no wider than thorax. Thorax (including propodeum) densely punctate; parapsidal furrows faint but complete. Propodeum with an abbreviated median carina at base only and with two pairs of lateral carinæ. Abdominal petiole stout, short, the abdomen conic-ovate, depressed above, convex beneath; segment 3 as long as 2, the two together occupying over half the surface; segments 2-4 smooth, the others finely scaly. Tegulæ yellow. Wings hyaline, the marginal vein no longer than the long stigmal, the postmarginal a half longer. Pedicel somewhat longer than funicle 1 which is somewhat longer than wide, 5 quadrate; club joints distinctly wider than long; third ring-joint larger than the other two. Mandibles not seen.

Described from a female taken from a window, June, 1912 (A. A. Girault).

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 3186*, Queensland Museum, Brisbane, the specimen on a tag, an antenna and hind legs on a slide.

TOXEUMOPSIS new genus.

Like *Toxeumella* Girault but the marginal vein short and thickened as in the Pachyneurini, no longer than the long stigmal which is somewhat shorter than the postmarginal. Distal club joint not ending in a nipple. Propodeum distinctly tricarinate, the median carina rather obscure but visible from lateral aspect, the lateral carinæ complete, rather obtuse. Second and third abdominal segments subequal, combined occupying nearly two thirds of the surface; segments 4 and 5 transverse-linear. Petiole of abdomen short and stout. Mandibles 3- and 4-dentate. Hind tibial spurs double.

1. TOXEUMOPSIS NIGRA new species. Female. Genotype.

Black, the abdomen shining, the wings hyaline; legs yellowish brown, the coxæ concolorous; venation dark. Scape and pedicel colored like the legs, the rest of the antennæ black; cephalic femur suffused with black. Finely reticulate-punctate, the propodeum somewhat more coarsely so. Abdomen glabrous. Pedicel blackish above, the first two ring-joints yellow. Pedicel much longer than any of the funicle joints, the first of the latter only slightly wider than long, the second and third subquadrate, the fifth wider than long. Length, 1.60 mm.

Described from one female from a window.

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 3187*, Queensland Museum, Brisbane, a female on a tag; head and caudal legs on a slide.

A second female was taken from a window at Ingham, Queensland, February 17, 1913.

MISCOGASTERIELLA new genus.

Head from cephalic aspect rounded, large, wider than the thorax, the mandibles strong, 3- and 4-dentate, the antennæ long and filiform, inserted *above* the middle, the scape short, the pedicel of usual length, the following joints all long and slender, shortening distad, the first funicle joint about thrice the length of the pedicel; thirteen joints in all, including two ring-joints, the club solid. Parapsidal furrows distinct, complete. Pronotum distinctly separated, large but wider than long. Abdomen with a short stout petiole, much elongate, twice the length of the thorax, cylindrical, the second and third segments long, subequal, together occupying nearly half. Mesoscutum short. Scutellum with a distinct transverse

grooved line before tip. Propodeum with a distinct median groove and with two half complete lateral grooves followed by a distinct, spiracular sulcus which is foveate; the spiracle is large, reniform. Propodeum longer than scutum. Postmarginal vein extending nearly to apex, much longer than the marginal, the stigmal short, a third or less the length of the marginal. Clypeus barely wider than long. Hind tibial spurs double, the legs slender but normal in length. Habitus of the Pteromalidæ.

1. MISCOGASTERIELLA LONGIVENTRIS new species. Male. Genotype.

Length, 6.30 mm.

Dark metallic green, the wings slightly embrowned throughout, the scutum and scutellum (cephalad of the suture) coppery; abdomen coppery black; venation very dark; coxæ concolorous, the legs reddish brown, the hind femur washed more or less with metallic greenish. Antennæ black. Clypeus blue-black, glabrous, the face and head finely reticulated, the scutum and scutellum more coarsely so, scaly, but distad of the cross-furrow, the scutellum much smoother and of a different color. Vertex back of and upon each side of the ocelli apparently smooth, but in reality extraordinarily finely alutaceous; however, smooth as compared with the reticulation of the rest of the head. First two pairs of coxæ sometimes brownish.

Habitat: Little Mulgrave River (Gordonvale), Queensland. Jungle, June 10, 1913 (A. P. Dodd).

Type: No. *Hy 3188,* Queensland Museum, Brisbane, two females on separate tags; and a slide with a head and cephalic legs.

TOXEUMOIDES new genus.

Similar to *Toxeumorpha* Girault but both mandibles are long and narrow, equally bidentate at apex, the stigmal and postmarginal veins are subequal, short, the stigmal subsessile, the parapsidal furrows are deep, the median carina of propodeum sharp and long, the lateral carina represented by a curved, foveate groove leading directly from the spiracle. Segment 2 of abdomen occupying somewhat over a third of the surface, 3 still longer, extending nearly to tip where 4 shows as a small cone. Petiole about as long as the hind coxa. Antennæ inserted a little above the ventral ends of the eyes, short, clavate, one ring-, three club joints, 13-jointed. Abdomen flat beneath, not triangularly produced as in *Toxeumorpha nigra.*

1. TOXEUMOIDES ÆNEICORPUS new species. Female. Genotype.

Length, 2 mm. Brassy green, the wings hyaline, the tibiæ reddish brown washed with metallic, the tarsi pale. Antennæ dark metallic green, all funicle joints wider than long, 1 shortest and narrowest, thrice the length of the ring-joint, 7 widest, 3 a little the longest. Pedicel longer than any funicle joint (in one antenna, funicles 2 and 3 were fused into a joint somewhat longer than wide). Abdomen glabrous, the petiole with a median carina and carinated lateral edges, scaly. Propodeum glabrous, with short cross-stitching-like effects along the median carina; rest of thorax transversely lined except distal third of scutellum, the head, axillæ and pronotum scaly.

Described from one female captured October 11 (H. Hacker).

Habitat: Brisbane, Queensland.

Type: No. *Hy 3189,* Queensland Museum, Brisbane, a female on a tag; hind leg and an antenna on a slide.

Genus SELADERMA Walker.

1. **SELADERMA ATHANIS** (Walker). Female; male.
Miscogaster athanis Walker, 1839, pp. 26-27.

2. **SELADERMA CERNUS** (Walker). Female.
Miscogaster cernus Walker, 1839, p. 22.

Genus LAMPROTATUS Westwood.

1. **LAMPROTATUS BATO** (Walker). Female; male.
Miscogaster bato Walker, 1839, pp. 22-23.

2. **LAMPROTATUS CIRON** (Walker). Female.
Miscogaster ciron Walker, 1839, pp. 16-17.

3. **LAMPROTATUS DAMIA** (Walker). Male; female.
Miscogaster damia Walker, 1839, p. 21.

4. **LAMPROTATUS HECATÆUS** (Walker). Male.
Miscogaster hecatæus Walker, 1839, p. 19.

5. **LAMPROTATUS MYCON** (Walker). Male.
Miscogaster mycon Walker, 1839, pp. 19-20.

6. **LAMPROTATUS NELO** (Walker). Female.
Miscogaster nelo Walker, 1839, p. 17.

7. **LAMPROTATUS NICON** (Walker). Female; male.
Miscogaster nicon Walker, 1839, pp. 17-18.

8. **LAMPROTATUS THERA** (Walker). Male.
Miscogaster thera Walker, 1839, pp. 18-19.

9. **LAMPROTATUS UMBRO** (Walker). Male.
Miscogaster umbro Walker, 1839, p. 24.

Genus MISCOGASTER Walker.

1. **MISCOGASTER DAICLES** Walker. Male, 1839, p. 20.

2. **MISCOGASTER LETUS** Walker. Female, 1839, p. 26.

3. **MISCOGASTER SAMBUS** Walker. Female, 1839, pp. 21-22.

Tribe HALTICOPTERINI.

HALTICOPTERELLA new genus of Girault and A. P. Dodd.

Female:—Head (cephalic aspect) a little wider than long, the antennæ inserted above the middle of the face, 13-jointed with three ring- and club joints. Pronotum distinctly separated, transverse, the parapsidal furrows three fourths complete from cephalad. Propodeum with spiracular sulci and lateral carinæ, the median carina absent. Abdominal petiole

short, the second segment occupying less than a fifth of the surface, the next three or four short, the abdomen pointed conic ovate, as long as the rest of the body. Postmarginal vein long, nearly as long as the marginal, the stigmal well developed but much shorter, somewhat less than half the length of the marginal. Propodeum with a short neck. Mandibles strong, 3- and 4-dentate. Scutellum simple. Head wider than the thorax (as seen from above). Cephalic ocellus not within the scrobes.

1. HALTICOPTERELLA NIGRIFLAGELLUM new species. Female. Genotype.

Length, 2.50 mm.

Dark metallic green, the wings hyaline; tibiæ, tarsi, knees, trochanters and much of ends of first two pairs of femora, pale straw yellow, the scape reddish yellow. Funicle 1 about twice longer than wide, distinctly longer than the pedicel which is subequal to the first funicle joint. Head and thorax uniformly, densely reticulate-punctate, the propodeum and head somewhat smoother. Coxæ concolorous, femora washed with metallic. Occipital impression immargined. Legs not noticeably swollen.

Habitat: Gordonvale (Cairns), Queensland. Jungle, November 10, 1913 (A. P. Dodd).

Type: No. *Hy 3190*, Queensland Museum, Brisbane, the female on a tag.

PARADICYLUS new genus of A. P. Dodd.

Head no wider than thorax, from cephalic aspect not distinctly wider than long; cephalic ocellus not within the scrobes. Antennæ inserted above the middle of face, 13-jointed with three ring- and club joints, the funicle joints elongate. At least one mandible 4-dentate. Pronotum distinctly separated. Parapsidal furrows three-fourths complete. Scutellum simple. Propodeum not long, without a distinct neck, with a distinct median carina and a cross-carina, the lateral ends of which curve cephalad and join the cephalic margin of the propodeum mesad of the spiracle. Spiracle rather large, in a depression, bounded caudad by a ridge which is a continuation of the cross-carina. No spiracular sulcus. Abdominal petiole short. Abdomen conic-ovate, somewhat longer than the rest of the body, somewhat produced at apex; segment 2 of abdomen occupying about a fifth of the surface, 3-5 each a little shorter than 2, subequal, 6 as long as or a little longer than 2; caudal margin of segment 2 at meson incised. Marginal vein not much longer than postmarginal, over thrice longer than stigmal.

Related to the foregoing genus but that genus lacks the median and the cross-carina on propodeum, and has complete lateral carinæ and spiracular sulci; also the second abdominal segment is not incised.

1. PARADICYLUS VARICORNIS new species of A. P. Dodd. Female. Genotype.

Length, 3.45 mm.

Dark metallic blue-green, the coxæ concolorous; femora dark brown, also basal third of tibiæ; knees, apical two thirds of tibiæ and the tarsi (except apical joint) white; antennal scape yellow; pedicel, first two ring-joints and funicles 2-4 dusky yellow; last ring-joint, funicle 1 and club black. Wings hyaline. Funicle 1 four times longer than wide, twice as long as pedicel, 2 two thirds the length of 1, the others gradually shortening, 5 slightly longer than pedicel; club no wider than funicle, scarcely longer than funicle 1; first club joint as long as the other two combined. Thorax densely punctate, the propodeum reticulated. Abdomen (except the smooth second segment) with very fine scaly sculpture.

Habitat: Gordonvale (Cairns), Queensland. Jungle, January 9, 1914 (A.P. Dodd).

Type: No. *Hy 3191*, Queensland Museum, Brisbane, the female on a tag; head and caudal legs on a slide.

Subfamily LELAPINÆ.

Genus LELAPS Haliday.

1. LELAPS FUSCA new species. Male.

Length, 1.35 mm.

Reddish brown, the abdomen and proximal halves of each parapside black, the petiole of abdomen reddish toward base, the posterior coxæ blackish toward tip; legs yellowish brown, the posterior coxæ which are large and cylindrical, nearly as long as the femur of the same legs and nearly as long as the long abdominal petiole, reddish. Wings subhyaline, the marginal vein distinctly longer than the submarginal, the postmarginal a half longer than the stigmal. Scutellum with a cross-furrow. Parapsidal furrows complete, curved off rather shortly. Axillæ just about meeting inwardly. Pronotum long, nearly subquadrate, distinctly separated. Propodeum produced into a distinct neck, with median and lateral carinæ. Abdomen small, the second and third segments subequal, together occupying over three fourths of the surface. Thorax scaly, the abdominal petiole rough; also the hind coxæ. Antennæ inserted slightly below the middle of the face, 13-jointed, with one ring-joint, the club 3-jointed, the funicle pilose, the joints all a little wider than long. Mandibles tridentate. Two posterior tibial spurs.

Habitat: Gordonvale (Cairns), Queensland. Jungle, May 8, 1913 (A. P. Dodd.)

Type: No. *Hy 3192*, Queensland Museum, Brisbane, the male on a tag; head, a caudal leg and the abdomen on a slide.

Genus NEAPTEROLELAPS Girault.

Agreeing with the description of *Apterolelaps* Ashmead but the antennæ only 12-jointed, one ring-joint, the parapsidal furrows absent, posterior tibiæ armed with two very long spurs, one of which is comparatively enormous, much larger than the other. Wings entirely absent. Abdomen with a very short, transverse petiole but the propodeum prolonged into a hood-like neck to meet it; no median carina on propodeum. Mandibles bi- and tridentate, in the latter the middle tooth shortest.

1. NEAPTEROLELAPS LODGEI Girault. Female. Genotype.

Length, 2.15 mm.

Ferrugineous, the pronotum darker, the mesoscutum, a stripe across the abdomen before tip and the coxæ (nearly) black; tibiæ nearly black except at tip; funicle black, the club yellowish white, the pedicel and ring-joint dark fuscous. Second abdominal segment somewhat over half the length of the body of the abdomen; one spur of posterior tibiæ as long as the first two tarsal joints united, the other a half shorter; posterior coxa with a tooth above just before apex. Pedicel longer than funicle 1, which is longest of the funicle, the distal joint wider than long. Scape somewhat dilated toward tip. Funicle joints 2 and 3 subquadrate. Thorax coriaceous, clothed with recumbent hairs, which are not dense; posteriorly mesoscutum bevelled off and smooth to the scutellum. Proximal tarsal joint of caudal leg black or dark.

Habitat: Mount Tambourine, Queensland.

Type: No. *I. 1269*, South Australian Museum.

Genus LELAPSOMORPHA Girault.

Agreeing with the foregoing but the antennæ only 11-jointed with one ring-joint, the club solid, the posterior tibial spurs stout and unequal but normal in length, the wings fully developed and infuscated and the propodeum with a median and a lateral carina. Otherwise

the same, there being no parapsidal furrows. Stigmal and postmarginal veins long and subequal. Mandibles tridentate, at least on one side. Second abdominal segment only a fourth the length of the body of the abdomen. Funicle joints transverse, all much shorter than the pedicel. Maxillary palpi 3-jointed, the labial 2-jointed.

1. LELAPSOMORPHA MYERSI Girault. Female. Genotype.

Length, 2 mm.

Ferrugineous, the proximal half of the abdomen yellowish with one or two cross stripes of fuscous, the other half blackish, the lateral carinæ of the propodeum darkened. Legs yellowish brown, the caudal coxa dark with a distinct purplish tinge proximad exteriorly, the caudal tibia fuscous. Antennæ dusky yellowish, the club and distal two funicle joints yellowish white. Fore wings with a straight-margined brown stripe across it at the submarginal vein just out from apex where the stripe itself is accented in the form of a deeper colored round spot by a roundish cluster of hooklet-like black spines; distad a very large subspherical brownish spot across the wing from the postmarginal vein, the middle of its proximal margin narrowly joining the middle of the proximal stripe so that when looking up the wing (apicad) the large spot looks not unlike the bag of a gas balloon attached to the basket below it. Thorax with polygonal reticulation (scaliness), the scutum with obscure thimble punctures. First funicle joint only about twice the length of the ring-joint, the funicle widening distad.

Habitat: Port Lincoln, South Australia.

Type: No. *I. 1270*, South Australian Museum, Adelaide.

URIOLELAPS new genus.

Female:—Differs from *Lelaps* Haliday in that the antennæ are 13-jointed with two very short ring-joints, the club only 2-jointed. Scutellum with a punctate cross-suture at distal two thirds. Petiole of abdomen distinct, plainly longer than wide, segment 2 occupying about half the surface. Parapsidal furrows curved, converging caudad, not quite complete caudad and tending to join there obtusely, barely missing caudal margin; the short, semicircular parapsides are thus narrowly connate caudad, the scutum obtusely conical distad. Distal segment of abdomen long-conical, over half the length of segment 2, the ovipositor slightly exserted. Mandibles tridentate. Antennæ inserted on a line with the ventral ends of the eyes. Marginal cilia of fore wing short. Maxillary palpi 4-jointed, the last joint much the longest; labials 3-jointed.

1. URIOLELAPS ARGENTICOXÆ new species. Genotype.

Female:—Length, 2.84 mm.

Dark reddish brown, the cephalic and caudal coxæ silvery white; funicles 3-7, the short parapsides, distal end of scutum and the very short projecting ovipositor valves black; fore wings trifasciate, the third stripe at apex, the second largest, from the postmarginal vein, the first next longest, subcrescentic, from about distal two thirds of marginal vein; base of wing also infuscated. Venation with many stiff black bristles; postmarginal and stigmal veins long, the first longer. Abdomen, scutellum distad of cross-suture and propodeum glabrous. Petiole rather coarsely, longitudinally striate. Propodeum with a median carina to the neck and with a cross-carina distad of middle whose arms are obliqued latero-caudad and then abruptly change angle to caudad running to the short neck; several other irregular carinæ laterad; spiracle round. Rest of thorax densely scaly reticulate, bearing scattered, long black setæ and also many more short black ones (all cephalad of transverse suture of scutellum, the same

bearing a large black seta at each lateral end). Pronotum transverse. Tibial spurs normal, leg slender. Pedicel not especially long but longer than any of the funicle joints of which 1 is longest, not much shorter than the pedicel, somewhat longer than wide; 2 subquadrate, the others gradually shortening, 7 being distinctly wider than long. Vertex also with several long black setæ, the head scaly reticulate.

From one female captured in jungle, February 5, 1914 (A. P. Dodd).

Habitat: Babinda, Queensland.

Type: No. *Hy 3193*, Queensland Museum, Brisbane, the specimen on a tag; head, front and hind legs on a slide.

2. URIOLELAPS POEI new species.

Female:—Length, 2 mm.

Similar to the genotype but shorter and besides the black parapsides, the proximal third dorsad of segment 2 of abdomen is purplish black, there is a round spot of the same color on each side of meson of the same segment at apex and the rest of the abdomen dorsad is of the same color except a short, intervening space caudad of the two spots. Also, the propodeum is black centrally on each side of meson. The antennæ differ in that the funicle is entirely black and the joints are a little shorter. Otherwise about the same. In both species, the scutellum caudad of the transverse suture is glabrous and the whole surface of the abdomen except slightly distad. The propodeum in both bears several irregular carinæ blocking out large, sunken areas. Compared with type of *argenticoxæ*.

Described from one female captured in the jungle on the Tweed River, May 2, 1914 (A. P. Dodd).

Habitat: Tweed Heads, New South Wales.

Type: No. *Hy 3194*, Queensland Museum, Brisbane, the female on a tag.

Respectfully dedicated to Edgar Allan Poe.

This family shows most interesting parallelisms with the Pteromalidæ. The species do not shrivel very much.

AUSTRALIAN HYMENOPTERA CHALCIDOIDEA—IX.*

The Family Cleonymidæ with Descriptions of New Genera and Species.

By A. A. Girault.

Family CLEONYMIDÆ.

CLEONYMINÆ.

Genus BELONEA Westwood.

1. BELONEA AUSTRALICA Westwood.

Belonea australica Westwood, Thesaur. Ent. Oxon., p. 147, t. 27, f. 5 (1874). Australia mer.

2. BELONEA ERYTHROPODA Cameron.

Belonea erythropoda Cameron, Mem. Philos. Soc. Manchester, XXVI, p. 122, ♀ ♂ (1888). Australia mer.

Genus CAMERONELLA Dalla Torre.

1. CAMERONELLA BLACKBURNI (Cameron).

Panthalis blackburni Cameron, Mem. Philos. Soc. Manchester, XXVI, p. 121, ♀ (1888). Australia.

Genus THAUMASURA Westwood.

1. THAUMASURA TEREBRATOR Westwood.

Thaumasura terebrator Westwood, Trans. Ent. Soc. London, p. 36 (1868). Australia.

Ashmead (1900) records a specimen of this species from South Australia.

2. THAUMASURA RUBROFEMORALIS Ashmead. Female.

Length, 10 mm.; to tip of ovipositor, 14.5 to 15 mm. Head and thorax metallic bronzed green, tinged with blue and clothed with a whitish pubescence; abdomen above blue, beneath bronzed, segments bearded with white hairs at sides; flagellum brown; coxæ metallic blue-green, all femora red, rest of legs fuscous or brown-black. Wings hyaline, venation brown.

Habitat: Sydney, New South Wales.

Type: No. *4891*, United States National Museum, Washington, D.C., U.S.A.

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* Contribution No. 32, Entomological Laboratory, Bureau of Sugar Experiment Stations, Bundaberg, Queensland.

Genus DINOURA Ashmead.

1. DINOURA AURIVENTRIS Ashmead. Female; male.

Length, 4.8 mm.; to tip of ovipositor nearly 7 mm. Head bluish or blue-green, with a metallic green spot on vertex enclosing ocelli; thorax above metallic green, at sides and beneath with metathorax, blue or blue-green; femora except tips, æneous black, anterior pair more or less bluish; rest of legs pale yellowish; hind tibiæ obfuscated medially. Wings hyaline, venation dark brown. Abdomen gold green and terminating in a prominent ovipositor which is dilated into three broad leaf-like expansions, like a propeller in a naphtha launch.

Male measures 3.60 mm. Antennæ 9-jointed, flagellum filiform, clothed with a short dense felt-like pubescence, the joints longer than thick; all legs æneous black with white tarsi; abdomen oblong-oval, bronzed black, metallic greenish above toward base.

Habitat: Sydney, New South Wales. From galls of *Brachyscelis pileata.*

Type: No. *4892,* United States National Museum, Washington, D.C., U.S.A.

2. DINOURA CYANEA Ashmead. Female.

Length, 5 mm.; to tip of ovipositor, 10 mm. Head and thorax blue with a metallic green tinge on thorax above; basal half of abdomen yellowish; anterior and middle tibiæ, hind tibiæ along outer face and all tarsi ivory white. Wings hyaline, as in the previous species.

Habitat: Wellington, New South Wales. From galls of *Brachyscelis ovicola* Schr., August 20, 1891.

Type: No. *4893,* United States National Museum, Washington, D.C., U.S.A.

Genus SCHIZONOTUS Ratzeburg.

1. SCHIZONOTUS DODDI new species. Female.

Length, 2 mm.

Dark metallic purple, the scutellum and base of abdomen green; the legs concolorous, the knees and tarsi yellowish; wings hyaline, the venation dark; antennæ black, 12-jointed with two ring-joints, the pedicel scarcely longer than the first funicle joint which is not much longer than wide, the distal three funicle joints subequal, the 3-jointed club not enlarged. Stigmal vein somewhat shorter than the postmarginal. Scutellum with a cross-furrow near apex, proximad of this with some scattered thimble punctures. Thorax densely shagreened, the propodeum with a sharp median carina, near its base crossed by a sharp transverse carina near or at the caudal margin; parapsidal furrows sharp. Mandibles tridentate. Abdominal segments more or less equal. Front femora only slightly swollen, not toothed. Antennæ inserted near the middle of the face.

Habitat: Gordonvale (Cairns), Queensland. Forest (2,500-3,000 feet), June 3, 1913 (A. P. Dodd).

Type: No. *Hy 3195,* Queensland Museum, Brisbane, the female on a tag, the head on a slide.

2. SCHIZONOTUS AMABILIS new species of Girault and A. P. Dodd.

Length, 2.10 mm.

Bright metallic green, the mesonotum coppery; coxæ and femora concolorous; tibiæ and basal half of antennal scape golden yellow; tarsi white, the apical joint dusky, rest of antennæ black. Scutum, scutellum and axillæ with fine scaly reticulation, the median lobe of scutum with large deep punctures. Parapsidal furrows deep and distinct. Scutellum rather long with a deep cross-suture before apex. Propodeum short, broad, glabrous; with a distinct median carina. Abdomen short, shorter than the thorax, segment 2 longest, occupying about a third of the surface, smooth, rest of abdomen with very fine reticulation. Wings hyaline, the venation

golden yellow. Stigmal vein only a little shorter than marginal; postmarginal slightly shorter than stigmal. Antennæ 12-jointed, two ring-joints, three club joints, the first ring-joint minute; pedicel distinctly shorter than funicle 1 which is somewhat longer than wide, 2-5 subquadrate, wider than long; club not much wider than funicle, nearly as long as the three preceding joints united. Club joints of equal length. At least one mandible 4-dentate.

Habitat: Gordonvale (Cairns), Queensland. Jungle, July 28, 1913 (A. P. Dodd).

Type: No. *Hy 3196*, Queensland Museum, Brisbane, the female on a tag; head and hind legs on a slide.

Genus PARAHEYDENIA Cameron.

Antennæ slender, not thickened toward apex. Front wings with a small cloud on the costal nervure at the base of its apical third; a larger cloud at and touching stigmal vein; marginal vein twice the length of stigmal; postmarginal thickened and projecting beyond the apex of the latter. Occiput transverse, temples obsolete above. Ocelli in a triangle. Eyes large, parallel; malar space distinct. Pronotum a little longer than the mesonotum without the scutellum, the centre raised, widened towards the base; sides with a large, oval depression below the raised centre; it is distinctly narrower than the mesonotum, which is flat, narrowed in front and without furrows. Scutellum large, flat, wider than long, rounded at the base, the apex transverse; metanotum short, rounded, a keel running down the centre and one on either side of this on the apical half; sides bordered by a keel. First abdominal segment campanulate, longer than wide, the narrowed end at the base; second the longest, longer than the following united, the segments becoming gradually widened to the penultimate, the whole being shorter than the thorax. Fore-femora greatly swollen, straight on the lower, roundly broadly narrowed on the upper side; base in front slightly depressed in the middle; middle femora more slender than the hinder, as are the middle tibiæ than the posterior. Pedicel about twice longer than wide, funicle 1 twice the length of pedicel, 2 about one fourth shorter, the others shorter, 3 and 4 twice longer than wide, the others wider than long. Parapsidal furrows almost obsolete.

". . . Nearly related to *Heydenia*, a genus which appears to be very little known. It is stated by Foerster to resemble one of the Dryinoidæ, which is certainly the case with the present genus. In *Heydenia* the parapsidal furrows are indicated; there are no keels on the metanotum nor clouds on the wings."

1. PARAHEYDENIA LONGICOLLIS Cameron. Male. Genotype.

Length, 4 mm.

Upper part of head and thorax brassy golden, sutures blue; pleuræ similarly colored but more largely tinged with blue, especially below; abdomen dark purple, base blue, middle laterally tinged with golden brassy; legs dark red, four hinder coxæ purple, tarsi testaceous, basal joint white; antennal scape red, pedicel brassy, other joints black; wings hyaline, venation black, an oval fuscous cloud at the stigma. Antennal furrows wide, converging and uniting above, dark green, closely reticulated-punctured, as is also the vertex; the rest of the head more finely punctured. Ocelli in an equilateral triangle, the hinder separated from each other by a slightly greater distance than they are from the eyes. Pronotum finely, closely transversely striated; pleuræ smooth. Mesonotum and scutellum closely, rather strongly, reticulated-punctured, the lateral divisions more finely than the central; mesopleuræ more finely, similarly punctured, more finely so at the base, where there is a raised longish area, the narrowed end above; apex bordered by a smooth line. Metanotum smooth in the middle, a stout keel down its centre, with a less distinct one, bulging out in the middle, on either side of it; sides aciculated, also the metapleuræ, densely covered with white pubescence. Coxæ and the dilated front femora closely, finely punctured; the former densely covered with white pubescence. Mandibles red, black at apex. Palpi white.

Habitat: Wagga, New South Wales.

Genus ARESSIDA Cameron.

1. ARESSIDA ANNULICORNIS Cameron. Female. Genotype.

Length to end of ovipositor, 12 mm.

Dark bronzy red tinged with green; on top, the pleuræ and sternum blue, more or less tinged with indigo above, the upper part of the meso- and the metapleuræ purple, the basal four dorsal segments of the abdomen fiery red; the apical, the sides and ventral surface dark purple; the sides of the second to sixth above with emerald green spots; that on the fourth longish, oval, extending from the top to the bottom, much larger than the others; these spots are densely covered with silvery pubescence. Legs red, coxæ to near the apex blue, tinged with violaceous, hind coxæ with a fiery red spot on the apex above; apex of the fourth front femora, the hinder for the greater part and the base of the tibiæ, dark bronzy green and blue; knees pale testaceous. Wings hyaline, venation dark fuscous; a longish pyriform cloud at the end of the submarginal vein and touching it, the narrowed end in front; a smaller transverse, triangular cloud beyond it, a much larger cloud at and touching the stigmal vein, narrow at it, commencing near the base and extending a little beyond its apex; thence it becomes gradually roundly widened, more so at the base than at the apex. Head behind the ocelli with fine, close, rounded transverse striæ, below with stronger longitudinal striæ, the striæ more or less obliqued. Malar space as long as the eyes; a fine furrow down its center. Eyes converging above, separated there by the length of the fifth antennal joint. Anterior ocellus larger and paler than the others and separated from them by double the distance these are from each other. Pro- and mesonotum and scutellum closely covered with roundly curved striæ; those on the base of the pronotum stronger and more widely separated than on the rest; apex of scutellum with a rounded projecting border. Metanotum smooth, the centre with stout diverging striæ, the outer longer than the inner; the sides densely covered with silvery pubescence. Abdomen shining, smooth; the basal two segments larger than the others; not much longer than wide. Third and fifth longer than wide, sixth still longer, of equal width, tubular; beyond it is a much longer segment above and closely pressed to the ovipositor, which is broad, of equal width and projects one third of its length beyond it. Smooth keel down center of pronotum; its apex becomes gradually widened from the middle. Scutellum obliquely narrowed at the base, which is transverse and one fourth the width of the broadly rounded apex. Mesopleuræ above the furrow closely, regularly reticulated, below vertically, more or less obliquely striated, as are also the metapleuræ, the basal (and larger) part more strongly so. Parapsidal furrows distinct, curved. The fore and posterior femora are thickened, the anterior with a curved incision on the lower part of apex; the middle thinner and narrowed at the apex. There are some longish, scattered white, weak spines on the hind tibiæ; the tarsi have shorter and more numerous spines; the shorter spur of the hind tibiæ is longer than the width of the apex of tibiæ.

Habitat: Gosford, New South Wales.

Type: Query.

2. ARESSIDA NIGRICORNIS Cameron.

"Length, 6; terebra, 2 mm.

Belmore, near Sydney, N.S. Wales (F. Taylor)."

The difference between this species and *A. annulicornis* may be shown thus:—

Antennæ entirely black, the knees not pale, the basal cloud in fore wings of equal width, the apical not roundly curved and narrow, its base oblique; the upper part of ovipositor shorter than the preceding two segments united, longer than the apex of the projecting lower part .. .. *nigricornis.*

Antennæ with the base of flagellum annulate, the knees pale, the basal cloud in fore wings narrowed at base, the apical roundly gradually widened from the base; the upper part of ovipositor longer than the preceding three segments, nearly two thirds of the length of the lower part .. .. *annulicornis.*

Almost similar as regards coloration and sculpture to *A. annulicornis.* The antennal scape is metallic green, the basal joint of flagellum dark purple; the upper part of the antennal depression dark purple. Parapsidal furrows shallow. Metanotum strongly, irregularly striated, the striæ more or less oblique, not projecting in front at the apex. The apex of scutellum strongly, regularly crenulated behind the keel.

It is probable that *Aressida* may be the same as *Thaumasura* West., but there are apparently some structural differences."

TOMICOBOMORPHA new genus.

Head as viewed from above wider than the thorax, the occipital margin concaved, the vertex transverse; viewed from in front triangular, the antennæ inserted far down near the mouth, the eyes small and situated at the dorso-lateral angles of the triangle (cephalic aspect); mandibles tridentate. Antennæ short, somewhat compressed, the scape foliaceously dilated, the club solid, enlarged somewhat as in the mymarid genus *Polynema* but shorter, the five funicle joints all wider than long, the single ring-joint very short, flat, usually hidden, the antennæ 9-jointed. Cephalic femur only moderately swollen, not toothed, the hind femora swollen more than the front ones. Parapsidal furrows complete; scutellum simple. Abdomen from above flat, ovate, not conically produced and about as long as the thorax, the second segment very long, occupying three fourths of the surface. Marginal vein very short, about a fourth the length of the submarginal, the stigmal two thirds of the marginal's length; the postmarginal absent or nearly. Abdomen with a very short, stout petiole. Fore wings patterned. Ovipositor not exserted. Intermediate tibial spur long, the hind ones short and stout, double. Abdomen with a brush-like short tuft of hairs at base, one on each side.

1. TOMICOBOMORPHA STELLATA new species. Female. Genotype.

Length, 1.60 mm.

Shining black, the antennæ concolorous, also the legs, the tarsi pale. Fore wing with a large brownish, rather irregular stripe across it between the bend of the submarginal vein and a point somewhat distad of the apex of the stigmal, this stripe or area complete, its proximal margin oblique. Thorax very finely, not densely, reticulated. Second and fifth funicle joints longest, the latter widest. The apical margin of fore wing for a short distance cephalad is also brown or fuscous.

Habitat: Kuranda, Queensland. Jungle, May 19, 1913 (A. P. Dodd).

Type: No. *Hy 3197,* Queensland Museum, Brisbane, the female on a tag; the legs and the head on a slide.

Genus TOMOCERA Howard.

1. TOMOCERA GLABRIVENTRIS new species. Female.

Length, 2.10 mm.

Differing from the genotype of *Tomicobomorpha* in having the scape long and slender and the front femora more swollen than the hind ones. Also, a fine cross-suture on the scutellum.

Dark metallic green, the abdomen very dark purple, the legs reddish excepting the hind femur above and the middle and hind tibiæ; scape and head reddish, rest of antenna black; pedicel much longer than any of the funicle joints, of which 1 is subquadrate, the

others gradually widening. Thorax finely reticulated, the lines not raised, the axillæ polished, not sculptured. Abdominal petiole scaly, the scutellum finely striate longitudinally and near apex bearing a very fine convex cross-suture distad of which it is brassy. Propodeum short, with lateral carinæ but the median one at base only. Apical *margin* of fore wing hyaline, the large black spot not touching the curved *distal* part of the submarginal vein as in the type species of *Tomicobomorpha* and is almost kite-shaped, the proximal part *pointed*. Laterad, propodeum glabrous. Pleura glabrous. Four long setæ from about center of scutum, the first pair closer together. Long setæ from cephalic margin of pronotum.

Habitat: Gordonvale (Cairns), Queensland. Jungle, November 1, 1913 (A.P.D.).

Type: No. *Hy 3198*, Queensland Museum, Brisbane, the female on a tag; head and a hind leg on a slide.

The abdominal petiole in this genus seems rather to be the produced propodeum because the lateral carinæ continue without break its entire length along the lateral edge; above centrally it (the so-called petiole) is distinctly striated longitudinally; the postscutellum is a glabrous platelike sclerite followed by a transverse row of foveæ and then a transverse ridge. The type has been re-examined; it bears a complete median carina on the propodeum. Two females at Gordonvale, forest, January 4 and 6, 1914 and another from forest swamp, May 15, 1914 at Chindera, Tweed River, New South Wales (A. P. Dodd).

1. TOMOCERA FLAVICEPS new species.

Female:—A little smaller than *glabriventris* which it is like excepting in the following particulars: About the distal half of that part of the scutellum distad of the faint transverse suture is glabrous (in the other species only apex at meson); the fore wings are narrower, the fuscous spot less distinct, its distal edge over the length of the marginal vein from apex (about that length in the other species), the hind wings are somewhat narrower, the stigmal vein a little shorter, the antennæ reddish brown, the club black, the fore wings lack a large, isolated discal bristle near caudal margin at proximal edge of the fuscous spot. The thorax is brassy, the legs all reddish. Head reticulated.

Described from three females reared from a coccid, October 10, 1913 (G. F. Hill). Labelled "No. 24."

Habitat: Port Darwin, Northern Territory.

Types: No. *Hy 3199*, Queensland Museum, Brisbane, three females on a tag.

CHEIROPACHYSIA new genus.

Built like *Cheiropachys* Westwood but the legs slender and unarmed, the funicle 5-jointed, the antennæ 12-jointed with two ring-joints, the club 3-jointed. Pedicel much shorter than the first funicle joint. Mandibles bidentate, the second tooth broad at apex, its outer apical angle acute like a second tooth but the truncate mesal slope does not form a third tooth but is gradual. Parapsidal furrows complete, the scutellum without a cross furrow, the propodeum strongly tricarinate or short and noncarinate. Abdomen sessile, noncarinated, longer than the rest of the body, pointed conic-ovate, the segments not lengthened, 2 longest; ovipositor only slightly exserted, the valves less so. Fore wings with a midlongitudinal black stripe from apex or hyaline, the postmarginal vein twice or more the length of the moderately long stigmal, nearly as long as the marginal which is only somewhat shorter than the submarginal.

1. CHEIROPACHYSIA LONGIFASCIATIPENNIS new species. Female. Genotype.

Length, 3 mm.

Brilliant metallic purple, the scutellum, propodeum and base of abdomen metallic green; legs pale reddish brown, the coxæ metallic basally, the trochanters and knees white. Scape white at base, otherwise like the legs, the club yellowish white; rest of antennæ black.

Funicle joints all longer than wide, 5 shortest, subequal to first club, 1 longest, about twice the length of 5, the others each shortening perceptibly, 1 about thrice longer than wide. Scutellum and scutum with umbelicate punctures which are not dense, each isolated, the scutellum without them at apex and along meson at distal half. Space between the punctures very finely reticulated. Axillæ a little more densely reticulated, the punctures absent except along cephalic and mesal margins. Parapsides like the axillæ but the punctures on lateral half. Propodeum finely scaly, the three carinæ strong, only moderate in length but complete.

Habitat: Kuranda, Queensland. Jungle, September, 1913 (A. P. Dodd).

Type: No. *Hy 3200*, Queensland Museum, Brisbane, the female on a tag; head and hind legs on a slide.

2. CHEIROPACHYSIA TENEBRICOSA new species. Female.

Length, 2.85 mm.

At once differing from the type species in having the propodeum very short and noncarinate, the mandibles tridentate and the abdomen stylate caudad. Purple copper, the wings subhyaline, the coxæ concolorous, the legs white washed more or less with salmon. Scape reddish brown, rest of antenna black except the club which is white. Stylus about two thirds the length of the rest of the abdomen. Funicle 5 quadrate, 1 longest but plainly not twice the length of the pedicel, 4 and 5 subequal, subquadrate, slightly longer than 5. Sculpture about as in the genotype.

Habitat: Kuranda, Queensland. Jungle, September 12, 1913 (A. P. Dodd).

Type: No. *Hy 3201*, Queensland Museum, Brisbane, the female on a tag; head and hind legs on a slide.

GENUS EPICAUDONIA Girault.

With the build of *Epistenia* Westwood but the abdomen noncarinated along each side, the second, sixth and seventh segments longest. Head rather large, the antennæ 13-jointed, inserted in the middle of the face, three ring and club joints, the first funicle joint elongate. One mandible 4-dentate (other not seen). Parapsidal furrows four fifths complete. Scutellum simple. Pronotum transverse, the propodeum without a median carina but with a fovea more than half way to the round oval spiracle from the meson at cephalic margin. Postmarginal vein three fourths or more the length of the marginal, the stigmal about half the length of the marginal. Like *Caudonia* Walker otherwise. Anterior femora distinctly swollen, the posterior still much more so but neither are excised nor dentate. Wings subhyaline, the infumation very faint or totally absent. Stigmal knob small. Caudal coxæ flattened. Spiracular sulci present.

1. EPICAUDONIA SCELESTUS Girault. Female. Genotype.

Length, 3.90 mm.

Dark metallic green, the mesothorax with rather inconspicuous pubescence somewhat like that of *Aplastomorpha*. Tegulæ, venation, trochanters, knees, tarsi, scape, pedicel and joints 2 and 3 of funicle reddish brown; antennæ black; tips of tibiæ white. Thorax finely reticulately punctate (including the propodeum). Legs concolorous. First club joint forming half of that region, the distal funicle joint distinctly longer than wide but less than half the length of the first; joints 2 and 3 subequal, 4 about equal in length to the pedicel. The three ring-joints large.

Habitat: Meerawa (Cairns District), Queensland. Jungle, July 26, 1913.

Type: No. *Hy 3202*, Queensland Museum, Brisbane, the female on a tag; head, a fore and hind leg on a slide.

NEOCAUDONIA new genus of A. P. Dodd.

Antennæ inserted a little above ventral ends of the eyes, 12-jointed with two ring and two club joints, the club with a terminal spur; funicle joints somewhat lengthened, the pedicel not lengthened. Head large (cephalic aspect), not distinctly wider than long, antennal scrobes

not distinct, very short, cephalic ocellus not within the scrobes. Mandibles 3- and 4-dentate. Pronotum short, distinctly separated. Parapsidal furrows half complete. Scutellum simple. Propodeum rather short and broad, without carinæ or sulci. Abdomen with a very short petiole; the body pointed conic-ovate, longer than the thorax, depressed above, convex beneath, the sixth and seventh segments somewhat the longest, the third shortest, caudal margins of all segments straight. Wings without bands, marginal vein twice as long as the long stigmal, some longer than the postmarginal. Front and hind femora distinctly swollen, simple; tibial spurs rather short, stout.

1. NEOCAUDONIA SPINOSICLAVA new species of Girault and A. P. Dodd.

Female. Genotype.

Length, 3.50 mm.

Very dark metallic green, the coxæ, tibiæ and femora concolorous, the abdomen somewhat brighter, brilliant at base, the tarsi pale straw yellow, the antennæ wholly black. Wings hyaline. Thorax (including propodeum) densely punctate. Abdomen finely scaly, the second segment smooth. Ring-joints wider than long; first funicle joint distinctly the longest, twice as long as the pedicel, which is as long as 6, the first club joint shorter than the second. Club no longer than funicle 1. Each end of tibia yellowish white. Clypeus longitudinally striate.

One female, Halifax, March 29, 1914 (A. P. Dodd).

Habitat: Babinda, Queensland. Jungle, February 11, 1914 (A.P.D.).

Type: No. *Hy 3203*, Queensland Museum, Brisbane, the female on a tag; head and legs on a slide.

A second female at Halifax (Ingham), Queensland, March 29, 1914 (A.P.D.).

2. NEOCAUDONIA AUREICORNIS new species of A. P. Dodd and A. A. Girault.

Female.

Length, 2.50 mm.

Similar to *spinosiclava* but dark metallic blue, the abdomen darker, the femora brown, the tibiæ and tarsi yellow, the antennæ yellow brown; funicle 1 barely longer than pedicel, no longer than 2; abdomen rather shorter, the segments 5-7 subequal, each a little shorter than 2.

Habitat: Clayfield (Brisbane), Queensland. Forest, March 29, 1913 (H. Hacker).

Type: No. *Hy 3204*, Queensland Museum, Brisbane, the female on a tag, the head on a slide.

A second female at Gordonvale, Queensland, April 27, 1913 (A. A. Girault).

"This genus appears to me to be the same as *Amicromelus* Girault of the Miscogasteridæ" (A. A. Girault).

TRIGONODEROPSIS new genus.

In Ashmead's (1904) table of genera running to *Trigonoderus* Westwood but the abdomen is totally different, being short sessile and ovate, no longer than the rest of the body and the scutellum has a transverse line of fine punctures across it. Propodeum with a distinct median carina but no others, polished. Marginal vein five or more times longer than the stigmal, the latter short, less than half the length of the postmarginal, the wings hyaline. Second abdominal segment longest, occupying about between a third and a half of the surface. Antennæ 13-jointed, with two ring-joints, the club 3-jointed. Pronotum wider than long, transverse but with a median neck. Both mandibles 4-dentate, the maxillary palpi 4-, the labial, 3-jointed. Club short, ovate, without a nipple, the pedicel short, the funicle joints except the short first, wider than long. Parapsidal furrows very deep. Cephalic femur distinctly swollen but otherwise simple; hind femur hardly swollen. Postmarginal vein very much shorter than the marginal.

1. TRIGONODEROPSIS SILVENSIS new species. Female.

Length, 1.50 mm.

Bright metallic greenish blue, the knees, tibiæ and tarsi yellowish brown, the tarsi paler, the first eight joints of the antenna dusky, the rest black; scutellum distad of transverse suture and the postscutellum polished. Scutum finely, transversely lineolated, longitudinally so distad, the scutellum finely, polygonally scaly, also the axillæ. The abdomen polished.

Habitat: Babinda, Queensland. Jungle (500 feet), October 28, 1911.

Type: No. *Hy 3205*, Queensland Museum, Brisbane, the female on a tag; head, the caudal legs and a fore leg on a slide.

TOMICOBIELLA new genus.

Female:—Head small, triangular, the antennæ inserted at the mouth border, filiform, 8-jointed without a ring-joint, the club solid; scape long and slender, the club also long, cylindrical but a little less than two thirds the length of the scape; funicle joints about twice longer than wide, a little less than half the length of the club. Mandibles 4-dentate. Pedicel somewhat longer than funicle 1. Hind femur short, compressed, unarmed; hind tibial spurs double, short and stout. Cephalic femur very slightly enlarged, simple. Marginal vein short (as in the Eurytomidæ), only about four times longer than wide, much less than a third the length of the submarginal, subequal to the stigmal, the postmarginal vein practically obsolete. Pronotum distinct, transverse; scutum wider than long, the parapsidal furrows moderately delicate, complete. Scutellum simple but its distal margin indented. Axillæ widely separated. Postscutellum a transverse row of foveæ. Propodeum transverse-linear, broadening a little laterad, foveate, mesad prolonged into a thick petiole-like projection to which is attached the abdomen. The latter thus appears to be stoutly petiolate. Second segment of abdomen (which is ovate) occupying fully somewhat over two thirds the surface, its caudal margin straight. Ovipositor just tipping abdomen at apex. Fore wings with short marginal fringes, the discal ciliation normal. Mesepisternum large, indented. A short tuft of hairs from base of abdomen on each side of meson.

1. TOMICOBIELLA SUBCYANEA new species.

Female:—Length, 1.30 mm. Tolerably stout.

Very dark metallic blue-black, the wings hyaline, the legs brown except cephalic coxa and femur which are concolorous; rest of cephalic leg white. Antennæ brown, the distal third of club black. Funicles 3 and 4 somewhat the longest of the funicle; 1, 2 and 5 subequal. Club a little wider than the slender funicle, thrice longer than its width. Second abdominal segment, axillæ and caudal margin of pronotum glabrous. Thorax scaly reticulated and with scattered thimble punctures which bear solitary, long black setæ. "Petiole" with a few longitudinal rugæ, one of which is median, the surface densely sculptured. Axillæ with two rather large foveæ caudad. Abdomen dark blue.

Described from one female captured in jungle, February 13, 1914 (A. P. Dodd).

Habitat: Babinda, Queensland.

Type: No. *Hy 3206*, Queensland Museum, Brisbane, one female on a tag; head and hind tibiæ on a slide with type appendages of *Chrysocharomyia cyancicorpus*.

Genus PLATYGERRHUS Thomson.

1. PLATYGERRHUS AUSTRALIENSIS Girault. Female.

Length, 4.10 mm.

Bright metallic green with æneous tinges (especially axillæ, centres of scutum and scutellum), polygonally punctate, the propodeum smooth and shining with a strong median carina and more or less bluish; the spiracle round, a line of foveæ leading from its tip mesad.

Fore wings hyaline but with a distinct fuscous or smoky loop curving from the base of the marginal vein convexly to the stigmal vein and when curving up to the latter suffusing indistinctly across to the costal margin in the form of a branch. Legs and tegulæ fuscous; also the scape. Postmarginal vein very long, nearly as long as the marginal. Antennal club solid, long, acuminately truncate from one side, the first funicle joint narrower than the others, the second longest but not as long by far as the long pedicel, which is subequal to the club; no real ring-joint, eleven joints. Eyes, head and thorax pilose. Posterior tarsi white, their tibiæ whitish at tips.

Habitat: Hobart, Tasmania. Reared from wood.

Type: No. *I. 1252,* South Australian Museum. A tag and a slide

2. PLATYGERRHUS ANNULICORNIS Girault. Female.

Length, 5.20 mm.

Dark metallic green and punctate, the wings hyaline, the coxæ concolorous except at tips, the legs brownish yellow; antennæ black, just before tip encircled by a broad ring of yellowish white (distal three funicle joints); stigmal vein shorter than usual. Second funicle joint nearly as long as the pedicel, the club oval; all funicle joints longer than wide.

Habitat: Hobart, Tasmania. Reared from wood.

Type: No. *I. 1253,* South Australian Museum. Tag and slide.

3. PLATYGERRHUS TASMANIENSIS Girault. Female.

Length, 3 mm.

The same as *australiensis* but smaller and the fore wings in addition to bearing the same pattern also have their tips fuscous and the backward branch of the loop is more distinct. Moreover, in this species the second funicle joint is shorter and also the pedicel in relation to the club.

Habitat: Hobart, Tasmania. Reared from wood.

Type: No. *I. 1254,* South Australian Museum, two females on pins and a slide.

4. PLATYGERRHUS FULVIVENTRIS new species.

Female:—Length, 3 mm. Abdomen long and conical, twice the length of the thorax or nearly, the ovipositor not extruded. Cephalic femur edentate and only moderately enlarged, as with my other Australian species. Also, the scutellum is simple, as with the others. Club solid. Scape slender.

Dark æneous green, the wings hyaline, the venation pale brown, also the abdomen, the latter washed lightly over with metallic greenish. Ovipositor valves and antennæ black. Legs concolorous with abdomen, the caudal and middle tibiæ and all tarsi lemon yellow. Vertex reticulate. Scrobes deep, forming a triangle. Thorax densely, shallowly scaly-punctate. Axillæ a little advanced. Segment 2 of abdomen longer than 3, incised at meson of caudal margin, not especially lengthened. Propodeum glabrous, shorter at meson, there with a distinct carina; no lateral carinæ but a line of punctures runs along both cephalic and caudal margins. Mandibles tridentate, the third tooth barely formed. Pedicel distinctly longer than any of the funicle joints, nearly twice longer than wide at apex; funicle 1 longer than wide, narrower than the rest, 2 slightly longer than 1, slightly longer than wide; 3-5 longest, subequal, somewhat longer than wide; 6-8 subequal, each a little shorter than 5. Club as long as the preceding three joints taken together. Legs slender. Proximal joint of caudal tarsus long and slender, the tibial spurs distinct but not stout. Parapsidal furrows deep; pronotum transverse, not very distinctly separated. Stigmal vein moderately short, the postmarginal two and a half times longer than it, somewhat shorter than the marginal.

Described from a female captured by sweeping in the forest, August 2, 1914 (A. P. Dodd).

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 3207*, Queensland Museum, Brisbane, the specimen on a tag; head, caudal tibiæ, a fore leg and a middle tibia on a slide.

Genus APLATYGERRHUS Girault.

1. APLATYGERRHUS MAGNIFICUS Girault. Female. Genotype.

Length, 4.70 mm.

Dark metallic green, densely punctate but the propodeum shining, only reticulate and with a median carina; rather hairy, the eyes also. Posterior coxæ metallic bluish; legs fuscous except posterior coxæ and the black posterior tibiæ (middle) and portions of the femora of the posterior legs. Wings with a conspicuous, large, subsagittate, smoky area suspended from the postmarginal vein and distad, the apex obscurely darkened. Postmarginal vein longer than the stigmal, which is long. Antennæ 11-jointed, no ring-joint, the club single, terminating in a conical projection and embraced by a long lateral extension of the distal funicle joint; first funicle joint smaller than the second, which is larger than the pedicel; other funicle joints wider than long. Antennæ brownish toward tip. Distal funicle joints pedunculate.

Habitat: Hobart, Tasmania.

Type: No. *I. 1251*, South Australian Museum. Tag and slide.

The genus is characterized by the antennal structure. Later one male and six females were found in the same collection. In the male the distal funicle joint has not the long projection.

Genus AMEROSTENUS Girault.

Agreeing tolerably well with *Merostenus* Walker but the antennæ with four ring-joints and a 3-jointed club, 13-jointed; flagellum cylindrical, the first two funicle joints subequal, longest of the flagellum, each over a half longer than the fourth (distal) funicle joint, which is subquadrate. Parapsidal furrows complete; scutellum with a transverse groove before apex. Propodeum with a median carina which divides at base, its spiracle round. Postmarginal vein nearly as long as the marginal, the stigmal shorter. Pronotum rather large. Abdomen long and pointed, conic-ovate, produced beneath near base. Fore wings obscurely stained. Femora subsimple. Scutellum broadening distad. Mandibles 4-dentate, the inner tooth truncate and broad. Eyes naked.

1. AMEROSTENUS AUSTRALIENSIS Girault. Female; male. Genotype.

Length, 5.20 mm.

Bright metallic blue-green, the antennæ, coxæ and femora concolorous, also the tibiæ along proximal half, the remainder of the legs reddish brown. Venation dusky brown. Fore wings obscurely stained. Body densely reticulated, the scutellum and parapsides not as rough as the scutum. The male measures 4.50 mm. and has the tibiæ all dark.

Habitat: Hobart, Tasmania. Reared from wood.

Type: No. *I. 1255*, South Australian Museum, one male, three females on a card and a slide.

2. AMEROSTENUS AEREIPES new species.

Female:—Length, 3 mm.

The same as *australiensis* but the wings hyaline, the legs all metallic and dark except the pale knees, tips of tibiæ and tarsi, the scutum and parapsides transversely lineolated, the first joint of the funicle is longest but not twice the length of the fourth which is subequal to joint 3, both quadrate or else a little wider than long; second funicle joint somewhat shorter

than 1 which is plainly longer than wide. Scape metallic. Postmarginal vein as long as the stigmal. Scape short. Pronotum transverse (without the head, rather large, conical). Antennæ inserted a little above ventral ends of the eyes. First femora slightly swollen, simple.

Described from one female reared from galls on young gum trees, March, 1911 (F. P. Spry).

Habitat: Melbourne, Victoria.

Type: No. *Hy 3208*, Queensland Museum, Brisbane, the specimen on a tag, the head, a fore leg and a hind tibia on a slide.

Genus APHOTISMUS Girault.

Agreeing with *Photismus* Walker but the abdomen with a very short petiole, its body compressed, appearing sublinear from dorsal aspect and large and round from lateral aspect, the ovipositor hidden. Head from cephalic aspect subrectangular, a little wider than long, the antennæ inserted slightly above the ventral ends of the eyes, 13-jointed with one ring-joint and a 3-jointed club. Pronotum transverse; parapsidal furrows complete, the scutellum simple but with a cross-groove, the median carina of propodeum weak, the spiracle small, round. Marginal, stigmal and postmarginal veins about equal, the first and last a little longer, the fore wing with a longitudinal, subcrescentic, fuscous band extending from apex of submarginal vein to apex of stigmal. Mandibles bidentate but the second tooth broad, its apex concavely emarginate. Posterior femora much swollen and with a large triangular tooth beneath near apex whose distal margin is minutely serrulate; cephalic femora also swollen but simple. Hind tibiæ with two spurs.

1. APHOTISMUS NIGER Girault. Female; male. Genotype.

Length, 1.85 mm.

Shining black, the tibiæ and tarsi lemon yellow, also the distal third of cephalic femora; antennæ concolorous, the funicle joints transverse, the first only twice the size of the ring-joint, the others wider, all shorter than the pedicel; flagellum short, clavate. Thorax finely, transversely lined and polygonally reticulated and with obscure thimble punctures. Short and stout. The male is about the same.

Habitat: Adelaide, South Australia. From galls on *Casuarina*.

Type: No. *I. 1337*, South Australian Museum.

TOMICOBOMORPHELLA new genus.

Head triangular, the antennæ inserted at the clypeus, clavate, the club solid, the scape dilated but not very greatly, the first two funicle joints like ring-joints, the others all wider than long, widening distad. Mandibles tridentate. One spur of caudal tibiæ very short, the other large but not especially long. Postmarginal and stigmal veins elongate, the former somewhat longer, nearly as long as the marginal. Parapsidal furrows complete, shallow. Pronotum transverse. Scutellum simple. Propodeum conical, noncarinate. Postscutellum rounded triangular, platelike. Abdomen sessile, depressed, conic-ovate, noncarinate, subequal to the thorax, segments 2 and 3 large, together occupying not quite half the surface, 2 the larger. Cephalic femur swollen but simple; caudal femur stout, simple. Club obliquely truncate. Antennæ 11-jointed.

1. TOMICOBOMORPHELLA JUSTICIA new species. Female. Genotype.

Length, 2 mm.

Dark metallic green, the scutellum, propodeum and abdomen dark coppery purple, the wings subhyaline or but very slightly yellowish; legs concolorous except the knees broadly, tips of tibiæ and the tarsi which together with the funicle and club are rich reddish brown

(first three funicle joints blackish). Caudal tibial spurs white. Pedicel distinctly longer than any funicle joint, a little longer than wide at apex. Club a little over half the length of the funicle. Frons broad. Scutum transversely lineolated; rest of thorax scaly but the propodeum punctate. Head finely scaly lined. First two segments of abdomen glabrous, the others showing scaly sculpture, especially from cephalic margins. Propodeum glabrous in a line mesad from the spiracle to the postscutellum, the latter with rimmed margins. Wings normally ciliate.

Described from two females captured by sweeping on forest uplands, Clarence River, May 30, 1914 (A. P. Dodd).

Habitat: Maclean, New South Wales.

Type: No. *Hy 3209*, Queensland Museum, Brisbane, two females on a tag; head and a pair of caudal legs on a slide.

PARATOMICOBIA new genus.

Like the preceding but the frons prominent, the vertex flat, the scutellum bears a curved, shallow cross-groove just before apex, the propodeum bears a median carina, the scutellum a shallow lateral groove; segments 2 and 3 of the abdomen together occupying somewhat less than a third of the surface; parapsidal furrows subobsolete, the pronotum transverse-quadrate. Stigmal vein as long as the postmarginal. Scape stout, not noticeably dilated. Caudal femur not stout. Postmarginal vein somewhat shorter than the marginal; cheeks longer than the eyes. Caudal tibiæ compressed toward apex.

1. PARATOMICOBIA FLAVIOS new species. Female. Genotype.

Length, 2.50 mm. Dark metallic green, the oral area yellowish, the legs, propodeum and abdomen coppery blue, the knees and tips of tibiæ reddish brown, the tarsi white, the caudal tarsi black (also the spurs). Tips of caudal tibiæ concolorous. Distal three funicle joints and the club reddish brown. Fore wing with the apex moderately, broadly infuscated and that portion between the bend of the submarginal vein and apex of venation. Under and against the marginal vein, a large, pyriform, hyaline area turned sideways and with the narrow end just a little proximad of the junction of marginal and stigmal veins; this area extends half way across the wing; a narrow, subhyaline area at caudal margin opposite the pyriform area. Apical and central infuscated areas narrowly connected along each margin. Infuscated areas generally coterminous with the discal cilia. Median carina of propodeum forking at base distinctly, the propodeum punctate and with lateral carinæ indicated distad. Abdomen showing a scaly sculpture after segment 4. Thorax polygonally scaly, the scutum scaly punctate and with short, whitish pubescence. Frons moderately broad.

Described from one female captured by sweeping forest uplands, Clarence River, May 30, 1914 (A. P. Dodd).

Habitat: Maclean, New South Wales.

Type: No. *Hy 3210*, Queensland Museum, Brisbane, the specimen on a tag; head, hind legs and a fore wing on a slide.

GENUS EPISTENIA Westwood.

1. EPISTENIA NIGRIÆNEA new species.

Female:—Length, 1.85 mm.

Dark metallic green, the wings hyaline, the abdomen coppery, blue at base; legs and antennæ concolorous, the knees and tips of tibiæ brownish, the tarsi white. Head and thorax umbilicately punctate, the propodeum subglabrous, with a row of punctures along the cephalic and caudal margins, a short, strong median carina, a rather small, round-oval spiracle and a broad sulcus just laterad of the latter. Abdomen with the incisions between the segments,

and the lateral margins carinated, the surface of the segments coarsely scaly. Face inflexed, the head much as in the Eupelminæ, the antennæ 11-jointed without a ring-joint, the first funicle joint small, like a large ring-joint, the club solid; pedicel much longer than any of the funicle joints which widen distad, joints 3 and 4 about longest, not much longer than the others, barely wider than long; club ovate, not half the length of the funicle; scrobes forming a triangle. Hind femora simple but more swollen than the front ones which are also simple (very finely serrulate) yet distinctly swollen. Incisions of abdomen smooth. Plate at apex of scutellum entire. Mandibles tridentate.

Described from one female caught by sweeping in forest, December 2, 1912 (A. P. Dodd).

Habitat: Northern Queensland (Gordonvale near Cairns).

Type: No. *Hy 3211*, Queensland Museum, Brisbane, a female on a tag; the head, hind legs and a front leg on a slide.

Subfamily CHALCODECTINÆ.

Genus CHALCODECTUS Walker.

1. CHALCODECTUS CUPRESCENS (Westwood).

Polychroma cuprescens Westwood, Thesaur. Ent. Oxon. p. 142 (1874). Australia.

Genus AGAMERION Haliday.

1. AGAMERION GELO (Walker).

Miscogaster gelo Walker, 1839, p. 27. Male.

" Mas. *Purpureo cyanea viridi-varia, antennae nigrae, pedes nigro-virides, tarsi picei, alae subfuscae.*

Purpureo-cyanea: caput cyaneo-viride; sulca quo insidet scapus laete cuprea: oculi et ocelli obscure rufi: antennae nigrae: thoracis segmentorum suturae nonnullae virides: mesothoracis scutellum purpureum: abdomen laete purpureum, basi viride micans, apice cyaneo-varium: pedes virides, cyaneo et purpureo varii; trochanters ferruginei; genua ferruginea; tibiae nigrae, spinae fulvae; tarsi picei; pro- et mesotarsis articulus 1us fulvus: alae subfuscae; squamulae piceae; nervi picei. (Corp. long. lin. 2¼; alar. lin. 3.)

Sydney, New South Wales.

2. AGAMERION METALLICA new species.

Female:—Length, 2.60 mm. Propodeum polygonally scaly. Occiput finely scaly.

In Ashmead's (1904) table of genera running to *Conura* Spinola in the Haltichellini but the body is metallic, the antennæ only 11-jointed with one large ring-joint, the club 2-jointed. Marginal vein three fourths the length of the submarginal, the postmarginal and stigmal moderate in length, the latter the shorter. Hind tibia at apex normal, squarely truncate, with two large, unequal, normal spurs. Second abdominal segment occupying about a fourth of the surface, not much longer than 4 which is a little longer than 3. Scrobes rather deep. Propodeum with a distinct, thick median carina and no others. Pronotum subtransverse. Scutellum at apex with a short, entire plate. Hind femur beneath distinctly *serrated*, with no large teeth.

Dark metallic blue, the wings hyaline, the tarsi brown, the dorsal edge of hind tibia white together with the first joint of hind tarsus, the rest of that tarsus blackish blue; tip of hind tibia margined with brown. Densely punctate (head and thorax). Pubescence inconspicuous. Scape straight, cylindrical; pedicel long, distinctly longer than any of the funicle

joints, about as long as the second club joint which is longer than the first and conical. Funicle 1 a little longer than wide, 2 and 3 subquadrate, the others shorter; funicle 1 not quite half the length of the pedicel. Dorsal aspect of hind tibia armed with short, stout white spur-like setæ somewhat like the black ones present on the middle tarsi of many eupelmine genera. Ovipositor not exserted. Distal two thirds of side of middle tibia ivory white; tips of first two tibiæ reddish brown. Metapleurum punctate. First two tarsi reddish brown; joint 1 of hind tarsus white, rest blue.

Male:—Not known.

Described from one female captured by sweeping foliage, forest, on the outskirts of the township, November 30, 1913.

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 3212*, Queensland Museum, Brisbane, the specimen on a tag, the antennæ and a hind leg on a slide.

It is no wonder that Kirby was misled by this insect and allied it with the Chalcididæ; its normal hind tibia, metallic coloration and the median carina on propodeum incline me to think that Ashmead has correctly placed it. The above species disagrees with the figure given by Kirby in having but two club joints. The propodeal spiracles are large, the opening reniform, the boundaries oval; no lateral carinæ. Also at Port Darwin, N.T.

This species differs from Ashmead's in having the tips of tibiæ and first two pairs of tarsi reddish brown not white, the middle tibiæ white along one side. Ashmead's species may not be congeneric.

I have seen a female through the kindness of Mr. A. P. Dodd which was reared from a pale blattid egg-case in 1903 at Horton Park, New South Wales (W. W. Froggatt).

2. AGAMERION CŒRULEIVENTRIS Ashmead. Male.

Length, 3.8 mm. Robust.

Metallic blue-green; thorax above bronzed green; face from ocellus, thorax at sides and beneath, tegulæ and legs except as noted and abdomen decidedly blue; flagellum brown-black; anterior and middle tarsi and hind tibiæ, all along outer face, ivory or yellowish white.

Head transverse, eyes large, convergent above, face below between base of eyes fully twice as wide as the space on vertex; scrobes distinct, long, in outline triangular; head above and thorax above with a close thimble-like punctuation, finer and feebly on sides and on hind coxæ. Wings hyaline; subcostal and stigmal veins yellowish, postmarginal and marginal veins pale brown, the latter being two thirds the length of the subcostal; postmarginal longer than the stigmal.

Habitat: Australia.

Type: No. *4890*, United States National Museum, Washington, D.C., U.S.A.

Genus SYSTOLOMORPHA Ashmead.

1. SYSTOLOMORPHA THYRIDOPTERYGIS Ashmead. Female.

Length, 1.8 to 2 mm.

Black, shining; flagellum brown; sutures of trochanters, tips of femora and all of tibiæ and tarsi yellowish white; wings hyaline, venation brown.

Head transverse, a little wider than thorax, about thrice as wide as thick anterio-posteriorly; scrobes delicately impressed but distinct; ocelli arranged in an obtuse triangle, lateral ocelli being a little farther from each other than from the front ocellus; surface of head distinctly coriaceous. Antennæ short; flagellum clavate; pedicel short, obconical, a little longer than thick and much larger than the first two joints of funicle; funicle joints short, wider than long, all gradually widening to club. Thorax in shape similar to the Eurytomid genus *Systole* Walker; parapsidal furrows distinct, entire; mesonotum delicately transversely aciculate; scutellum coriaceous; axillæ meeting at their inner, basal angles; metathorax short,

abrupt, smooth, with small rounded spiracles. Wings hyaline, with a faint discoidal cloud; venation brown; marginal and postmarginal veins about equal, one third the length of the subcostal vein; stigmal vein a little shorter than the marginal, gently curved and ending in a small knob. Abdomen subglobose, subcompressed beneath and sessile, not longer than thorax; the second segment (or first body segment) nearly twice the length of the third, the following subequal. Hind femora somewhat swollen, with a slight tooth beneath before apex.

Reared October 22, 1886 from *Thyridopteryx* species on an *Eucalyptus* (A. Koebele).
Habitat: Adelaide, South Australia.
Type: No. *4889*, United States National Museum, Washington, D.C., U.S.A.

GENUS EUCHRYSIA Westwood.

1. EUCHRYSIA CLEPTIDEA Westwood. Female.

Euchrysia cleptidea Westwood, Thesaur. Ent. Oxon. p. 139, ♀, t. 26, f. 3 (1874).

2. EUCHRYSIA GEMMA Westwood. Female.

Euchrysia gemma Westwood, Thesaur. Ent. Oxon. p. 139, ♀, t. 26, f. 4 (1874). New South Wales.

3. EUCHRYSIA PRASIMA Westwood. Female.

Euchrysia prasima Westwood, Thesaur. Ent. Oxon. p. 140, female (1874). Australia.

In a small collection received from the National Museum, Melbourne, there was a species agreeing with the diagnosis of this genus in that the abdomen was depressed from both dorsad and ventrad, appearing membranous and as if crushed and pulled (like a normal abdomen of a small locustid which had been much stretched by pulling and then pressed and allowed to dry in that position). Segment 2 of abdomen occupied over a third of the surface. The cephalic femora were excised before tip, with a tubercle in the excision. Otherwise like *Agamerionella* but funicle 1 was more like a ring-joint. The distal two or three joints of the antennæ were missing. The species resembled *Agamerionella locustiformis* but the fuscous spots on the fore wing were distinct and more continuous, forming a crescent. The legs (except coxæ) and joints 2-4 of funicle red. Propodeum with a median carina. The label was "No. 49. Nr. Melbourne." The sex apparently female but not really known

PAREPISTENIA new genus of A. P. Dodd.

Head no wider than the thorax, viewed from front no wider than long; eyes large, pubescent. Cephalic ocellus not within the scrobes. Antennæ inserted close to the clypeus and close together, 11-jointed, without true ring-joints, funicle 1 being like a ring-joint, the club solid. Mandibles tridentate. Pronotum large, quadrate; parapsidal furrows complete, scutellum simple. Abdomen conic-ovate, depressed above, gently convex beneath, carinated laterally, scarcely longer than rest of body, the second segment as long as wide, third quite short, 4-6 long, longer than 2; 7 and 8 somewhat produced, the valves of the ovipositor not plainly exserted. Fore wings long and broad, reaching apex of abdomen, the stigmal vein barely a fourth as long as the long marginal, the latter longer than the postmarginal. Posterior femora much swollen, more so than the anterior ones and simple; the anterior *tibiæ* with five teeth from half length to apex. Hind tibial spurs not long. Propodeum rugose, without definite carinæ. Distinguished by the teeth on the anterior tibiæ.

1. PAREPISTENIA VARICORNIS new species of A. P. Dodd. Female. Genotype.
Length, 5 mm.

Metallic coppery green, the legs (except posterior coxæ), basal half of antennal scape and funicle, golden yellow, the antennæ darker; apical half of scape, pedicel and club black.

Pedicel two thirds longer than funicle 2, which is somewhat longer than wide, the others shortening, the last much wider than long; club as long as three preceding joints united. Thorax coarsely, densely punctate, the abdomen coarsely transversely wrinkled, the second segment smooth and shining. Wings almost hyaline.

Habitat: Brisbane, Queensland. November 19, 1913 (H. Hacker).

Type: No. *Hy 3213,* Queensland Museum, Brisbane, the female on a tag; head, fore and hind legs on a slide.

Genus CALOSETROIDES Girault.

Allied with *Amotura* Cameron but the front femora are swollen, compressed and excised beneath at apex, the posterior femora unarmed beneath. Legs otherwise unarmed; cephalic tibiæ and caudal coxæ somewhat compressed, the latter flat interiorly, the caudal femur enlarged but unarmed; caudal tibiæ with two unequal spurs, both rather large. Tarsi 5-jointed. Antennæ inserted distinctly below the ventral ends of the eyes, very near the clypeus, the scape obclavate and long, the flagellum 9-jointed, no ring-joint. Scrobicular cavity long but not including the cephalic ocellus, the lateral ocelli separated from the eye margin, the three in a small triangle in the center of the vertex; eyes somewhat convergent above, long-ovate, naked. Bulbs separated by a long, acutely triangular raised area in the scrobicular cavity. Genæ long; genal suture distinct. Pronotum incised at meson. Parapsidal furrows complete, the axillæ rather widely separated. Scutellum simple, its caudal margin carinate and preceded by a line of deep punctures separated by narrow, short carinæ. Propodeum with a short, solid, acutely margined median carina which is V-shaped and margined on each side by a broad sulcus; the spiracle cephalad, large, elliptical. Abdomen sessile (the ovipositor not exserted) and no longer than the head and thorax combined, flat above, acutely conic-ovate, its second segment smooth, forming nearly half of the surface. Wings infuscated; marginal vein long, only slightly shorter than the submarginal, the stigmal and postmarginal veins also long, the former curved, only half the length of the postmarginal which is three fourths the length of the marginal. Metallic, large.

1. CALOSETROIDES AUSTRALICA Girault. Female. Genotype.

Length, 5.65 mm.

Metallic purplish with æneous tinges, the face metallic green; legs reddish brown, the coxæ and posterior femora (exteriorly only) concolorous, the intermediate tibiæ proximad and exteriorly and the cephalic tibiæ exteriorly or along the outer margin, black. Wings with a distinct, large embrowned subsagittate cloud in its middle, longitudinally, the area appearing as if hung by one of the lateral angles from the apex of the stigmal vein; also there is an elliptical spot suspended from the apex of the submarginal vein. Antennæ black, the scape concolorous. Head and thorax granulately punctate.

Habitat: Millbrook, Victoria.

Type: No. *Hy 1196,* Queensland Museum, Brisbane, the female on a tag and a slide.

AGAMERIONELLA new genus.

1. AGAMERIONELLA LOCUSTIFORMIS new species. Genotype.

Female:—Length, 8 mm., excluding stylus and valves.

With the form of a small locustid, the head and hind legs especially. Head longer than wide (cephalic aspect) and resembling that of a locustid; cheeks long; antennæ inserted wide apart, much below the ventral ends of the eyes, the scrobes sharply defined, converging, reaching to the cephalic ocellus; eyes large like those of a locust, somewhat shorter than the cheeks which bear a long narrow genal suture. Antennæ filiform, 11-jointed, no ring-joint,

the club solid or single, the pedicel and second funicle joint elongate, the scape very long, dilated slightly toward tip. Scutellum terminating in a bidentate plate. Abdomen conic-ovate, its body longer than the head and thorax combined, as in *Epistenia* but noncarinated and the last segment is produced into a slender stylus which is nearly as long as the body of the abdomen; also, the valves of the ovipositor are longly exserted, much beyond the stylus above them. Hind coxæ swollen, nearly as long as the femora, strongly flattened inwardly, the enlarged femora practically unarmed beneath. Front femora swollen but simple. Propodeum short, the spiracle reniform, no median carina, the posterior margins of each wing or callus, hairy. Segments 2 and 6 of abdomen longest. Postmarginal vein elongate, subequal to marginal, the stigmal short.

Metallic purplish, the fore wings irregularly stained; the legs blood red except the concolorous coxæ. Antennæ black or nearly, the first funicle joint short, a little wider than long, the second abruptly much longer, the fifth subequal to the club; 7 and 8 subequal, longer than wide, shortest after 1 but distinctly longer than it. Thorax shagreened-punctate, also the head; a long, triangular mesal portion of each parapside, finely transversely striated. Ocelli in an equilateral triangle. Eyes naked. Joints 2-4 of funicle slightly reddish. Knees and tibiæ more or less metallic.

Described from one female, minutien-mounted, received from the National Museum, Melbourne, and labelled "46" and "Gippld. 296."

Habitat: West Australia.

Type: In the National Museum, Melbourne, the above specimen, the antennæ on a slide.

This genus apparently differs from *Agamerion* Haliday in bearing a stylate abdomen and the exserted ovipositor; also in lacking the ring-joint; the club is solid. Differs from *Calosetroides* in bearing one more antennal joint, a stylate abdomen and so forth. The first funicle joint is often ring-like.

2. AGAMERIONELLA BREVISTYLUS new species.

Female:—Length, 7.50 mm., excluding stylus and the ovipositor which is exserted for a little over a third the length of the abdomen.

Brilliant metallic purple, the legs (except coxæ and hind femur) blood red; also joints 2-6 of the funicle. Front femora swollen, deeply excised beneath at tip. Plate at apex of scutellum entire. Stylus short, about a fourth the length of the abdomen. Fore wings with a large blotch appended from the stigmal vein and an oblique cross dash caudad from the bend of the submarginal vein, separated from an oblique, longitudinal dash caudad; postmarginal vein somewhat shorter than the marginal, elongate. Head and thorax (excluding propodeum) uniformly sculptured. First funicle joint wider, the distal two longer, than in *locustiformis*. Otherwise agreeing with the named species.

Described from one female minutien-mounted, received from the National Museum at Melbourne and labelled "50. Cunbower."

Habitat: Victoria?

Type: In the National Museum, Melbourne, the above specimen and a slide with the antennæ.

3. AGAMERIONELLA SANGUINIPES new species.

Female:—Length, 7.20 mm., excluding stylus and exserted portions of ovipositor.

Almost exactly similar to *locustiformis* but distinctly smaller and the valves of the ovipositor are exserted for a length distinctly less than that of the abdomen (in the other species the exserted portion is a little longer than the abdomen); the stylus is also shorter but longer in proportion to the length of the exserted portion of the valves of the ovipositor. The spots at apex of stigmal and bend of submarginal veins are longer and more distinct

(faint in *locustiformis*). In one specimen (type) the short plate at apex of scutellum was entire. Funicles 2 and 3 dark reddish. Cephalic tibia black above; hind knees black.

Described from one female, on a pin, labelled "42. Whittlesea. Coll. J.A.K. 11.11.08."

Habitat: Victoria.

Type: In the National Museum, Melbourne, the foregoing specimen.

A second specimen was reared from a twig infested with a beetle and bore the label "45. F.P.S." Since it differs from the type in having the fore wings as in *locustiformis* (but the two spots suffusely connected) and the plate at apex of scutellum slightly emarginate at the meson, I name it the variety *scutellatus* and designate the specimen as the type of that variety. The first joint of hind tarsus is distinctly longer than in the typical form. Funicle all black.

4. AGAMERIONELLA PAVO new species.

Female:—Length, 7.20 mm.

Differs from *brevistylus* Girault in having only funicle joint 3, tip of 2 and base of 4, red; also in being dark green, the abdomen dark purple, in having the vertex between the eyes narrower, the wing pattern smaller but same in kind. From *sanguinipes* differs in having the hind femur concolorous except proximad, the hind tibia all red, in having the pyramidal area from the stigmal vein larger, the vertex between the eyes much narrower, the postmarginal vein plainly not as long as the marginal and in having only the tip of funicle joint 2 red. Lateral ocelli not touching the eyes.

Male:—Not known.

From one specimen captured in jungle (F. P. Dodd).

Habitat: Kuranda, Queensland.

Type: No. *Hy 3214*, Queensland Museum, Brisbane, the specimen on a tag.

6. AGAMERIONELLA CURCULIONIS new species.

Female:—Length, 8 mm. (total).

Dark æneous green, the abdomen blue and purple, the fore wings slightly indefinitely stained under the marginal vein and centrally. Tegulæ, tibiæ and tarsi blood red. Scutellum unarmed. Thorax (exclusive of metathorax) with a shallow median groove, densely, finely punctate, the propodeum regulose, short at the meson, there the carina formed by one of the rugæ, the lateral carina also one of them, broadly looped around to the cephalic margin, mesad. Abdominal segments centrally densely shagreened, the incisions and the base of segment 2 polished. Valves of ovipositor distinctly but slightly exserted. (Head missing.) Stylus very short, half the length of the extruded part of ovipositor.

Male:—Length, 6.75 mm.

Like the female except that the abdomen is not as long as the thorax yet conic, the propodeum is long at the meson and without definite carinæ, rugose, the cephalic tibiæ are bluish on one side and the wings hyaline. Antennæ 11-jointed with a large ring-joint, the club long, solid, the ring-joint red, the rest concolorous. Pedicel elongate, longer than funicle 1 which is longest, funicle 7 quadrate; club subequal to pedicel. Front femora more swollen but not as large as the hind ones.

From one female labelled "Darwin, 16.6.13, parasitic on wood-boring weevil." And one male labelled "Darwin. 2.7.13. G. F. Hill, No. 17."

Habitat: Port Darwin, Northern Territory.

Host: Euthyrrhinus meditabundus Fabricius.

Types: No. *Hy 3215*, Queensland Museum, Brisbane, one female and one male on two pins, the male antenna on a slide with broken antenna of an *Euchrysia*.

7. AGAMERIONELLA BRISBANENSIS new species.

Female:—Like *curculionis* except that the fore wing is distinctly stained yellowish and the stylus is not tipped with white. Face with coarser punctures than the thorax, the vertex with finer ones (same with the male type of *curculionis*). Ring-joint and funicle 1 dark red, the antennæ otherwise like those of the male type of *curculionis* yet the pedicel and club are each a little longer.

Described from one female captured November 19, 1913 (H. Hacker).

Habitat: Brisbane, Queensland.

Type: No. *Hy 3216*, Queensland Museum, Brisbane, the specimen on a tag.

SYSTOLOMORPHELLA new genus.

Female:—Head somewhat wider than long (cephalic aspect), the antennæ as in *Aplatygerrhus* Girault, inserted on a level with the ventral ends of the eyes. Hind femur swollen, with one large tooth ventrad toward apex and no others. Abdomen elliptical, depressed, somewhat longer than the rest of the body, segments 2, 5, 6 and 7 longest, more or less equal, 3 transverse; abdomen subpetiolate, the ovipositor not extruded. Scutellum simple. Propodeum with a median carina. Postmarginal and stigmal veins well developed, the former longer, somewhat over half the length of the moderately long marginal. Propodeal spiracle large, elliptical; no true lateral carinæ.

1. SYSTOLOMORPHELLA TRIFASCIATIPENNIS new species. Genotype.

Female:—Length, 5.50 mm.

Reddish purple, the abdomen blue, purple at base and with greenish reflections. Tarsi white, legs reddish purple, trochanters white. Antennæ red, the single club joint black. Funicle 2 longest, 1 smaller than the pedicel, 2 somewhat longer than wide, a little longer than the pedicel; 3 and 4 subequal, a little shorter than 2; distal funicle joint a little wider than long, the lateral projection reaching nearly to base of the conical termination of the club. Tip of abdomen above, broadly fuzzy. White pile dorso-laterad, on propodeum, scattered over the head, less noticeably on thorax (but thicker—hispid—on scutellum as on tip of abdomen). Propodeum shining but very finely scaly. Head and thorax densely, finely punctate. Third cross-stripe of fore wing at apex, narrow, the second very broad from all of postmarginal and distal half of marginal veins, its proximal margin convex; first stripe twice broader than the third, not half as broad as the second, from bend of submarginal vein. Of the two enclosed white stripes, the first is much narrower. Segment 2 of abdomen glabrous, others fairly sculptured.

From one female captured, December 28, 1911 (H. Hacker).

Habitat: Mt. Tambourine, Queensland.

Type: No. *Hy 3217*, Queensland Museum, Brisbane, the specimen on a pin; antennæ on a slide with type appendages of *Agamerionella brevistylus* Girault and in the National Museum, Melbourne.

2. SYSTOLOMORPHELLA UNNOTIPENNIS new species.

Female:—Like the genotype but the hind femur beneath armed with three large and one small teeth, the scape foliaceously dilated and shorter. The head in both is lenticular, the scrobes absent, the frons broad. In the genotype, the scape is slightly dilated toward tip.

Length, 5 mm. Smaller than in the genotype, the thorax flattened. Dark metallic blue, the propodeum metallic green, the abdomen with purplish reflections; knees, tips of

tibiæ and tarsi distad of joint 1 (which is white), reddish brown. Hind tibiæ armed dorsad with stout spines which, however, are much smaller than the tibial spurs. First four funicle joints wider at apex than at base, about as long as wide, the other four wider than long, of uniform width but 8 is shortest, rather much wider than long, its projection embracing about two thirds of one side of the club. Venation fuscous, the fore wings hyaline but with a distinct sooty, rounded area from distal half of marginal and all of stigmal veins, conically produced distad to a point opposite the apex of the postmarginal vein and reaching to middle of wing. The area surrounding this rather large, distinct spot is suffused with dusky caudad and proximad for a long distance. Pedicel a little larger than funicle 1. Lateral ocelli not touching the eyes. Sculptured as in the genotype. Head and thorax with a very short hispidescence. Last three segments of abdomen dorsad densely, rugulosely scaly, the last two segments dorsad not as stiffly hairy as in the genotype. Propodeum coarsely scaly, the median carina bounded by a row of foveæ and there is a foveate spiracular sulcus meeting at apex the foveate lines along side the median carina which forks at apex. The propodeum of the genotype is the same but less distinctly sculptured. Antennæ short. Front femur swollen somewhat but simple.

From one female, miscellaneous sweeping, August 20, 1914.

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 3218*, Queensland Museum, Brisbane, the specimen on a tag; antennæ, fore and hind leg on a slide.

3. SYSTOLOMORPHELLA UNFASCIATIPENNIS new species of A. P. Dodd and A. A. Girault.

Female:—Length, 4 mm.

Metallic green, the scutellum and axillæ coppery, the propodeum and abdomen, more or less, brilliant metallic blue; legs (except hind coxæ) and antennæ (except last two joints), bright golden yellow, the last two joints black. Head (cephalic aspect) much wider than long, the antennæ inserted below ventral ends of eyes and wide apart, no antennal scrobes; pedicel somewhat longer than any of the funicle joints which are all wider than long; club with a long terminal spur. Parapsidal furrows incomplete. Propodeum smooth, shining, with a distinct median carina. Second abdominal segment smooth, the remainder scaly, the third very short. Fore wing with a broad, transverse band, involving stigmal and a part of marginal veins; stigmal vein long, somewhat shorter than postmarginal, the latter nearly as long as the marginal.

From one female labelled "Brisbane, 19.xi.13. H. Hacker."

Habitat: Brisbane, Queensland.

Type: No. *Hy 3219*, Queensland Museum, Brisbane, the specimen on a tag; head and fore and hind leg on a slide.

Genus AMOTURELLA Girault.

Agreeing in general with *Amotura* Cameron but the antennæ only 8-jointed, the club solid, one ring-joint, the posterior femora swollen but only very minutely serrate (not denticulate) beneath. Body short, pteromaliform, the cephalic femora swollen and with one minute tooth beneath. Pronotum long, rectangular (as in *Eurytoma*, but not as wide as the thorax), nearly as long as the scutum, which has complete, punctate, parapsidal furrows. Propodeum very coarsely punctate. Second abdominal segment very long, occupying two thirds of the surface, the following segments very short and subequal; abdomen sessile, broadly ovate, convex beneath, the ovipositor not exserted. Scutellum with a punctate cross furrow just before tip. Both wings infuscated, the stigmal vein short, without a knob, the postmarginal still shorter. Mandibles tridentate, the head triangular, the antennæ inserted on the clypeus.

1. AMOTURELLA SAINTPIERREI Girault. Female. Genotype.

Length, 1.25 mm.

Metallic coppery, the abdomen black, the sides of thorax green; legs rich, dark reddish-brown; posterior wings uniformly stained, fore wings stained out to the end of the venation, from thence hyaline, apparently without marginal fringes. Thorax scaly, also the head. Scape slender; pedicel long obconic, twice the length of the first funicle joint, which is somewhat wider than long, largest of the funicle, the ring-joint closely attached to it and as wide as its base; other funicle joints shortening; club as long as the funicle.

Habitat: Hobart, Tasmania.

Type: No. *I. 1469*, South Australian Museum.

In those forms of this family with simple legs, it is difficult to distinguish them from forms of the Miscogasteridæ. The lateral thoracic sclerites appear to be the only characteristics but I have not seen enough of them to form an adequate opinion as to the value of this difference. A careful study of the family may show that the *Cleonyminæ* and Chalcodectinæ are invalid because of gradual variations in the size of the caudal femora. The species are not often taken with the sweeping net but many more forms will doubtless be discovered when an attempt is made to collect by rearing from beetle-infested wood. The forms do not shrivel much. Nor are they numerous in the Australian fauna, from present indications.

AUSTRALIAN HYMENOPTERA CHALCIDOIDEA—X.*

The Family Eucharidæ with Descriptions of New Genera and Species.

By A. A. Girault.

Family EUCHARIDÆ.

Genus METAGEA Kirby.

1. METAGEA KIRBYI Ashmead.

Female:—" Length, 4 mm.

Æneous black, tinged with blue or purplish in certain lights. Head and thorax, except discs of parapsides which are smooth and æneous, coarsely rugose. Legs brownish yellow, femora except at tips dark brown; hind coxæ black, hind tibiæ, except tips, fuscous. Wings hyaline; venation brown. Flagellar joints, except first, submoniliform, not or very little longer than thick; first joint of flagellum as long as 2 and 3 united. Abdomen æneous black, petiole about four times as long as thick, smooth and impunctate."

Habitat: Gosford, New South Wales. (A. Koebele, collector.)

Type: No. *4886,* United States National Museum, Washington, D.C.

2. METAGEA RUFIVENTRIS Ashmead.

Female:—" Length, 9 mm. Head and thorax bright metallic green, coarsely rugose; mouth parts, scape, pedicel and legs except coxæ, yellow; abdomen, except petiole, second segment at base above and hypopygium wholly rufous; flagellum and second abdominal segment at base above black, petiole purplish; wings subfuscous, hyaline at base. Flagellar joints 1 to 6 all longer than thick; terminal joints alone moniliform; first three or four joints elongate, but gradually shortening, 1 about five times as long as thick at apex, 4 less than two thirds the length of 1, the others still shorter, seventh and eighth submoniliform. Abdomen, except as noted, red; petiole about four times as long as thick, finely microscopically punctate above."

Habitat: Gosford, New South Wales.

Type: No. *4887,* United States National Museum, Washington, D.C.

3. METAGEA ZALATES (Walker). Male and female.

Eucharis zalates Walker, 1839, pp. 13-14.

4. METAGEA TUBERCULATICORNIS new species.

Female:—Length, 3.80 mm.

Dark metallic purple with dark greenish reflections, the abdomen with its petiole and the femora (except cephalic ones) chocolate brown; cephalic femur light brown. Coxæ concolorous; tibiæ and tarsi straw yellow. Wings lightly yellowish, the venation pale. Antennæ

* Contribution No. 33, Entomological Laboratory, Bureau of Sugar Experiment Stations, Bundaberg, Queensland.

and mandibles reddish brown. Head circularly striate, the mandibles as in *Orasema*. Thorax uniformly rugoso-punctate, the scutellum obtuse at apex. Parapsidal furrows complete, punctate. Dorsum of thorax plane. Abdomen large, compressed, upturned, the petiole somewhat longer than the hind coxa. Metatarsus slender. Scape somewhat shorter than funicle 1, distinctly longer than wide, the pedicel short, wider than long; funicle 1 longest of the antennæ, widening distad, one and a half times longer than wide at apex, or that many times longer than funicle 2, which with the following joints are no longer than wide at apex, narrower at base, becoming smaller toward apex, the simple club joint a little longer than funicle 2 (in one antenna the distal funicle joint was fused with the club); funicle joints armed around apex with several short, nipple-like tubercles. Antennæ 11-jointed, no ring-joint.

From one female labelled "No. 37. Darwin, N.T. 10-10-13. Sweeping in jungle. G. F. Hill."

Habitat: Port Darwin, Northern Territory.

Type: No. *Hy 3282*, Queensland Museum, Brisbane, the female on a tag; head on a slide.

Genus EPIMETAGEA Girault.

Synonym: *Astilbula* Girault.

The same as *Metagea* Kirby but the antennæ not moniliform and only 10-jointed. Also agreeing somewhat with *Pseudochalcura* Ashmead but differing again in lacking one antennal joint. Head thin, triangular, the antennæ inserted slightly below the middle of the face, the club solid and ovate, longer than any of the funicle joints but slightly shorter than the simple cylindrical scape; pedicel obconic, short, subequal to joint 4 of the funicle, bearing from one side of its apical margin a single, very long, slender but stiff bristle-like seta which reaches distad nearly to the apex of joint 3 of the funicle. Proximal funicle joint longest, nearly twice the length of the pedicel, all the funicle joints obconic, widening distinctly distad, all more or less prolonged obtusely from one apical corner, the distal joints more so. None of the joints petiolate or subpetiolate; no ring-joint. Mandibles long and falcate, acute at apex, the right with two large triangular teeth within, the left with one that is larger than either of those of the right; also exteriorly at base each with a large tooth. From beneath the clypeus there projects a flat, palmate (9-digitate) brownish plate, above and between the mandibles; clypeus convex along its distal margin, the latter with two teeth on each side of its end, the first very obtuse, the second more toothlike but not large. Ocelli nearly in a straight line across the short vertex, the cephalic one within and at the apex of the short scrobicular cavity. Parapsidal furrows complete, with deep punctures. Scutellum normal, terminating in a short plate whose distal margin is entire though convex. Thorax elevated convexly in places but the convexities obtuse. A rather large toothlike plate from the lateral aspect of the thorax some distance ventrad of the axilla. Thorax with large irregular reticulations or narrow carinate lines, but not punctate except the large punctures in sutures. Abdomen with a distinct petiole (which is moderate in length), depressed, diamond-shaped from dorsal aspect, opaque. Petiole somewhat over twice longer than wide. Proximal tarsal joints of all the legs long and slender but the first tarsal joints are not half the length of the tarsi. Venation obscure, the stigmal and postmarginal veins short, much shorter than the marginal, the stigmal the longer of the two, curved or bent like a boomerang. Wings hyaline, all ciliation nearly absent; a trace of marginal cilia disto-caudad. From lateral aspect, scutellum appearing as if terminating in a short acute tooth. The axillæ meet mesad.

1. EPIMETAGEA PURPUREA Girault. Female. Genotype.

Length, 3.5 mm.

Metallic purple, the abdomen with green reflections; knees, tibiæ, tarsi (except distal dark part of distal joint) and the antennæ, brown, the latter suffused with purplish distad. Venation nearly invisible but the stigmal vein brownish. Head impunctate but with very

fine circular striæ, glabrous ventrad of the antennæ; lateral ocelli very distant from the eye margins; scrobicular cavity with its lateral margins noncarinate; a tubercle at latero-cephalic aspect of pronotum. Scutellum between and behind the axillæ (at the meson) sunken. Abdominal petiole longitudinally striate. Cephalic part of thorax dorsad (cephalad of the middle of the scutum) coarsely reticulate as is also much of the scutellum. Base of propodeum with deep transverse foveæ, the region with lateral grooves. Caudal half of scutum practically smooth.

Habitat: Townsville, Queensland. Reared from ants, July, 1902.

Types: No. *Hy 1195*, Queensland Museum, Brisbane, three females on a card, a head on a slide.

2. EPIMETAGEA MAGNIFICA (Girault). Female.

Astilbula magnifica Girault.

Length, 3.95 mm. Robust.

Brilliant metallic æneous-green, the abdomen shining, the scutum transversely striate, the scutellum longitudinally so, both more or less irregularly; scutellum with a weak median carina. Wings hyaline. Petiole roughened. Venation brown. Legs straw yellow brown, the coxæ and most of the femora concolorous; also antennæ but the scape and pedicel brownish. Club joint next longest of the flagellum.

Habitat: National Park, New South Wales.

Type: No. *I. 1287*, South Australian Museum, a female on a card, the head on a slide.

3. EPIMETAGEA PURPUREICORPUS new name. Female.

Astilbula purpura Girault.

Length, 3.75 mm.

Metallic purplish, the abdomen much darker; knees, tarsi and tibiæ straw yellow, the first three antennal joints brownish; wings hyaline, the venation brown. Femora and coxæ concolorous. Sculptured as in *magnifica*. Joints of funicle after the first cup-shaped or nearly, erected on thick peduncles; first funicle joint cylindrical, long. Abdomen ascending. Mandibles dentated as in the preceding (*i.e.*, regarding number of teeth).

Habitat: Cairns, Queensland.

Type: No. *I. 1288*, South Australian Museum, the specimen on a tag, the head on a slide.

4. EPIMETAGEA ÆNEA (Girault). Male.

Astilbula ænea Girault.

Length, 4.75 mm.

Dark æneous green, the head and scutum with purplish; abdomen beneath mesad and the legs, except coxæ, yellowish brown, the scape and pedicel pale; petiole of abdomen and coxæ blackish. Fore wings with a sooty blotch under the stigmal vein (continued attenuatingly proximad) and another opposite to the first (continued proximad more distinctly). Thorax rugose and transversely lined, the scutellum with the lines longitudinal, the base of the prong-like process about twice longer than its least width, longitudinally striate. Hind outer angle of each parapside produced laterad into a platelike tooth. Head finely circularly striate, the lower half of the face glabrous. Propodeum with a lateral groove. Antennæ 12-jointed, no ring-joints, eight long branches from joints 2-9, all from the same side; funicle 1 twice the length of the pedicel, 2 a little shorter than the pedicel, transverse, 3 a little wider than long, 4-9 gradually increasing in length, 9 being distinctly longer than 1; club very long, much over twice the length of the distal funicle joint. Petiole thrice the length of the hind coxæ.

Habitat: Gordonvale (Cairns), Queensland. Jungle, May 9.

Type: No. *Hy 3223*, Queensland Museum, Brisbane. Tag and slide.

The type has been re-examined.

5. EPIMETAGEA POLITA new species.

Female:—Length, 3.25 mm.

Dark metallic purple, the wings hyaline, the knees, cephalic tibiæ, tips of other tibiæ and the tarsi yellowish brown, also the scape and pedicel. Head mostly smooth. Scutum at cephalic third with four transverse carinæ not close together, otherwise polished; parapsides polished, the furrows coarsely foveate. Axillæ glabrous, laterad with traces of longitudinal carinæ at cephalic margin; scutellum the same but with longer carinæ from base laterad, coarse and interlacing (parapsides laterad with scattered pin-punctures), the lateral and apical margin foveate and then strongly carinate; apical fourth of scutellum at meson with a median carina projecting cephalad from apex and terminating in a cross-carina (abbreviated laterad) at about distal two thirds. Propodeum with a line of foveæ around cephalic margin, dorsad with a few longitudinal carinæ (a long, complete, curved lateral carina is distinct), foveate toward the margins. Petiole rugulose, not quite twice the length of the hind coxæ. Funicle joints only slightly produced from disto-lateral angle but the antennæ as in the genotype except that the pedicel lacks the long seta.

From one female minutien-mounted captured by H. Hacker, April 24, 1912. Also another taken November 19, 1913.

Habitat: Brisbane, Queensland.

Type: No. *Hy 3284,* Queensland Museum, Brisbane, the first specimen and an antenna on a slide.

6. EPIMETAGEA BICOLORIVENTRIS new species.

Female:—Length, 5 mm.

Like *polita* but all tibiæ yellowish brown and the distal half (more ventrad) of abdomen is dull blood red. Head finely longitudinally striate along upper half of face, elsewhere smooth but with scattered fine punctures. Scutum coarsely, transversely striate; scutellum densely coarsely foveate. Caudal half of parapside glabrous, the other half like the scutum. Axillæ foveate. A more or less distinct, coarse, median line of transverse foveæ along the scutellum. Propodeum wholly rugose but not as coarse as the scutellum. Antennæ as in *polita* but the scape is longer. Thoracic pleura rugulose, polished centrally ventrad of tegulæ (farther dorsad and ventrad in *polita*). Occiput with faint circular striation. Petiole somewhat longer than the hind coxæ.

From one female minutien-mounted labelled "Hacker, Bribie Island, Moreton Bay near Brisbane, November 3, 1913."

Habitat: Bribie Island, Queensland.

Type: No. *Hy 3285,* Queensland Museum, Brisbane, the above specimen and one antenna on a slide (with a pair of same of *polita*).

GENUS TRICORYNA Kirby.

1. TRICORYNA ECTATOMMAE new species.

Female:—Length, 2.85 mm.

Dark metallic blue-green, the wings hyaline, the tarsi whitish (hind tarsi so distad of first joint which is about half the tarsus). Head circularly striate, the striæ not dense. A median groove on thorax, coarser on the scutellum, faint on distal scutum. Scutellum unarmed, with coarse longitudinal striæ, the scutum with oblique striæ cephalad but the caudal half together with all of the parapsides, glabrous. Axillæ like the scutellum. Surface between striæ glabrous. Abdomen glabrous, blackish, with numerous but scattered, distinct, rather coarse pin punctures over the surface, the petiole finely longitudinally lined, a little over twice longer than wide. Antennæ 9-jointed like those of *subsalebrosa* except that one joint is absent and the last one is no smaller than those immediately preceding it. Antennæ thick, moniliform.

From one female on a card labelled "Taken from nest of ant Ectatomma. Fern Tree Gully, 8-3-11. F. P. Spry."

Habitat: Melbourne, Victoria.

Type: In the National Museum, Melbourne, the female on a card.

2. TRICORYNA SUBSALEBROSA new species.

Male:—Length, 3.50 mm.

Black, finely, densely rugulose except the caudal portion of each parapside which is glabrous. Cephalic tibiæ brown. Wings hyaline, the postmarginal vein long. Scutum and scutellum with a median groove, wider and coarser on the former. Abdomen finer in sculpture than the rest of the body. Legs thick, the front tibiæ slender but not long, the thick first tarsal joint in hind legs not quite half the length of the hind tarsus. Axillæ meeting inwardly. Quite as figured by Haliday. The scape and pedicel are so short that the long first funicle joint appears to be the scape. Antennæ *10-jointed;* scape very short, somewhat longer than wide, pedicel much wider than long; funicle 1 elongate, thrice the length of the scape, about twice the length of the next joint; joints following funicle 1 shortening in sucession, all the funicle joints narrower at base; club not differentiated, the last antennal joint smallest after the pedicel, subglobular. Flagellum hispid but not uniformly. Scutellum blunt at apex, slightly overhanging the propodeum. Petiole long, striate, about as long as in *ectatommæ.*

From one male captured by H. Hacker, January 17, 1913.

Habitat: Brisbane, Queensland.

Type: No. *Hy 3286,* Queensland Museum, Brisbane, the above specimen on a tag, an antenna on a slide.

3. TRICORYNA IELLO (Walker). Male ; female.

Eucharis iello Walker, 1839, pp. 12-13.

GENUS EUCHAROMORPHA Girault.

Somewhat like *Psilogaster* Blanchard but the antennæ 11- to 12-jointed, with a true ring-joint, the funicle joints cylindrical to subquadrate; postmarginal vein distinct, also the venation; scutellum with a cross-furrow before apex. Abdomen subsessile, the petiole extremely short or absent. Parapsidal furrows deep, the parapsides somewhat gibbous, also the axillæ. Head not striated, the ocelli in a small triangle. Club solid.

1. EUCHAROMORPHA VIRIDIS Girault Female. Genotype.

Length, 4 mm.

Bright metallic æneous green, the coxæ concolorous, the legs straw-yellow, the antennae black but with the scape and ring-joint honey-yellow, the pedicel more or less so. Venation brown. Wings subhyaline. Antennæ 12-jointed, the first funicle joint long, twice the length of the pedicel, the second a third shorter, the others subquadrate and more or less equal; club joint conical ovate, subequal to first funicle joint. Head and thorax rugulose, subpunctate, not rude. Abdomen robust, sessile.

Habitat: Swansea, Tasmania.

Type: No. *I. 1283,* South Australian Museum, Adelaide.

2. EUCHAROMORPHA FUSCIPES Girault. Male.

Length, 3.87 mm.

The same as the preceding but more slender, the femora along proximal half fuscous and with more or less metallic green, the abdomen with a distinct but short petiole, the

antennæ wholly black and differ structurally in that the third funicle joint is longer, also the club; ring-joint yellow brown. The abdomen is smaller. One specimen of this species was tinged with metallic blue while another was smaller and with a shorter scape.

Habitat: Hobart, Tasmania.

Type: No. *I. 1284*, South Australian Museum, Adelaide.

3. EUCHAROMORPHA DUBIA Girault. Male.

Length, 3.80 mm.

The same as *fuscipes* but the antennæ only 11-jointed, the funicle 7-jointed; the femora are dark up to the tips and with more metallic coloration. The club is longer, distinctly much longer than the first funicle joint and the funicle joints are all longer than wide.

Habitat: Hobart, Tasmania.

Type: No. *I. 1285*, South Australian Museum, Adelaide.

4. EUCHAROMORPHA TRIDENTATA new species.

Female:—Length, 1.68 mm.

Dark purple, the knees, tibiæ and tarsi yellowish brown, also the scape which, however, is darker. Scutum and scutellum densely, finely punctate, the parapsides polished, also the axillæ, the scutellum with a polished central area just before the transverse groove, distad of the latter with more scattered punctures and a median groove. Propodeum long, finely punctate, with a distinct delicate median carina (lateral carinæ apparently absent); abdomen subsessile, globular. Mandibles with three distinct acute teeth, the outer the longer but not greatly longer, the teeth more equal than usual for the family. Antennæ as in the male of the genus; funicle 1 distinctly the longest, one and a third times longer than wide, longer than the pedicel; funicle 2 a little longer than wide, 3 subquadrate, the rest subequal, a little wider than long; the solid club equal to more than the two preceding joints united. Pedicel a little longer than wide.

Described from one female captured by sweeping lantana in a field, October 19, 1911.

Habitat: Mackay, Queensland.

Type: No. *Hy 3287*, Queensland Museum, Brisbane, a female on a tag, the head on a slide.

Genus ORASEMA Cameron.

Orasema pheidolophaga Girault. Female; male.

Length, 2.80 mm.

Dark metallic green, sometimes with a bluish tinge; abdomen coppery; wings subhyaline, the venation brown; antennæ dark metallic green throughout; coxæ concolorous, the tarsi and tibiæ straw-yellow, the femora metallic green, the cephalic femora less so. Thorax rugulose and punctate. Scutellum rimmed at apex. Head circularly striated. Antennæ 13-jointed with a short ring-joint, the club 3-jointed, the first funicle joint longest, the others shortening, but all longer than wide, rectangular; club joints more or less coalesced, yet plainly indicated. Mandibles 2- and 3-dentate, as described for the genus, flavous, fuscous at tip.

Habitat: Geelong, Victoria. From pupæ of *Pheidole*.

Type: No. *I. 1286*, South Australian Museum, Adelaide.

Genus CHALCURELLA Girault.

The same as *Chalcura* Kirby but the antennæ with paired branches, the funicle joints distad of the third, bearing a pair of branches from the apex of each joint, opposite and forming the two arms of a tuning fork; the second two joints of the funicle bearing but a single branch, the branches hairy; first funicle joint very long, widening distad; the second,

third, fourth and fifth short; the sixth and following lengthening, slender, becoming as long as the first; scutellum with a median groove. Scape short. Stigmal vein quadrate, the wings hyaline. Abdomen as in *Eucharis*. Propodeum with a broad, longitudinal sulcus dorso-laterad.

1. CHALCURELLA NIGRICYANEA Girault. Male. Genotype.

Length, 4.85 mm.

Black with a bluish tinge, the coxæ and antennæ concolorous, the femora fuscous or brown-black, the knees, tibiæ and tarsi yellowish-brown, also the tegulæ and venation. Rudely punctate, the head striate. Thorax pilose. Pedicel chocolate. Posterior coxa and abdominal petiole irregularly and rather delicately roughened. Tegulæ brown.

Habitat: Hobart, Tasmania.

Type: No. *I. 1282*, South Australian Museum, Adelaide.

Genus NEOKAPALA Girault.

1. NEOKAPALA FURCATELLA Girault. Female. Genotype.

Length, 3.25 mm.

Dark metallic green, the propodeum, abdomen and head blue; legs fuscous, the antennæ black with brownish club and scape, 11-jointed, no ring-joint. Fore wings infuscated distad of the distal end of the marginal vein (more proximad at caudal margin), the infuscation accented under the end of the marginal vein. Scutellum produced into a prong like the two arms of a tuning-fork, each prong about as long as the scutellum, brownish toward tip, flattened, the edges carinated; scutellum longitudinally striate. Head shining, thorax umbilicately punctate. Abdominal petiole not as long as the arms of the scutellar process. Antennæ with the funicle joints produced from one side at apex, flattened, the club solid, ovate, the pedicel small and cup-shaped, funicle joints 2 and 5 longest, subequal, the first funicle joint longer than the pedicel by far but cylindrical oval, not produced.

Habitat: Cairns, Queensland.

Type: No. *I. 1278*, South Australian Museum, Adelaide.

This genus differs from *Kapala* Cameron by the scutellar processes which are short, blunt at end and forming a prong which is high up over the base of the abdomen.

Genus STILBULA Spinola.

1. STILBULA PEDUNCULARIS Westwood, Thesaur. Ent. Oxon. p. 155, ♀, ♂ (1874).

2. STILBULA BIDENTATA Girault. Female.

Length, 3 mm.

Very dark metallic green, the abdomen darker, the wings colourless, their wings very pale. Legs fuscous, the knees, posterior tibiæ and tarsi fulvous. Scutellum bidentate, the head circularly striate, the thorax roughly punctate including the propodeum, the rather long abdominal petiole pitted. Antenna 12-jointed, of the flagellum (excluding pedicel) the first joint longest, thrice the length of the short pedicel, the club joint shortest; excluding the bulla, scape shorter than funicle 1; antennæ brownish toward tip, otherwise black; funicle joints 3 and 4 subequal, each about somewhat over a half the length of joint 1.

Habitat: Mount Tambourine, Queensland.

Type: No. *I. 1279*, South Australian Museum, Adelaide.

3. STILBULA AUSTRALIANA Girault. Female.

Length, 3.10 mm.

The same as the preceding but more greenish (dark green), the scutellum similarly slightly produced but not bidentate and with a more or less obscure median grooved line.

the axillæ divided by a more or less distinct foveate suture; distal halves of femora, the tibiæ and tarsi yellowish brown. Abdomen as in *Eucharis*. In the antennæ, the second, third and fourth funicle joints are subequal, somewhat longer than wide, the first joint longest, narrowing proximad.

Habitat: Mount Tambourine, Queensland.

Type: No. *I. 1280*, South Australian Museum, Adelaide.

Genus PSILOGASTER Blanchard.

1. PSILOGASTER PULCHER Girault. Male.

Length, 4.5 mm.

Metallic æneous green, the abdomen dark; scape and pedicel yellow, the wings slightly stained, the legs except coxæ straw-yellow, the posterior femora washed with fuscous; venation brown, the postmarginal vein long. Scutellum with a median grooved line, otherwise simple and normal. Rugulosely punctate. Antennæ 10-jointed, the joints long and cylindrical, the club shortest, the first funicle joints longer than the scape; distal funicle joint subequal to the club; pedicel cup-shaped, very short. Differs from Brullé's *pallipes*, apparently, in having 10-jointed antennæ, though it should be compared with that species.

Habitat: Mount Wellington, Tasmania.

Type: No. *I. 1281*, South Australian Museum, Adelaide.

2. PSILOGASTER PALLIPES Brullé, Hist. Nat. Ins. Hym., IV, p. 574, ♀, ♂ (1846). Tasmania, Australia.

3. PSILOGASTER THEOCLES (Walker).

Eucharis theocles Walker, 1839, pp. 11-12.

PARAPSILOGASTER new name.

Psilogasteroides Girault, preoccupied.

Agreeing with *Psilogaster* Blanchard but having 12-jointed antennæ; first funicle joint long, the others short.

1. PARAPSILOGASTER FAUSTA (Walker). Male. Genotype.

Eucharis fausta Walker, 1839, pp. 10-11.

Psilogasteroides fausta (Walker).

" Mas. *Viridis cupreo et cyaneo varia, pedes fulvi, femora viridia, alæ limpidæ.*

Viridis, cupreo-varia: capitis frons cyaneo-viridis: oculi et ocelli obscure rufi: thorax subtus et postice cyaneo-viridis: abdomen cupreum: pedes fulvi; coxæ virides; femora viridia, apice fulva; tarso apice fusci: alæ limpidæ; squamulæ piceæ; nervi fulvi, apice obscuriores. (Corp. long. lin. 1¾; alar. lin. 2¾.)

Hobart Town, Van Diemen's Land.

Mas.—Corpus convexum, parum nitens, rude punctatum, parce pubescens: caput sat magnum, breve, transversum, thorace latius; vertex latus, non impressus; frons abrupte declivis: oculi parvi, subrotundi, extantes: ocelli approximati, vertice triangulum fingentes: antennæ 12-articulatæ, filiformes, pubescentes, thorace paullo longiores; articulus 1us longus, gracilis, sublinearis; 2us cyathiformis; 3us longus; 4us et sequentes breves, lineares, usque ad 9um curtantes; 10us 11us et 12us arcte applicati clavam fingentes fusiformem 9o duplo longiorem: thorax ovatus: segmentis suturæ bene determinatæ: prothorax brevissimus, supra vix conspicuus: mesothoracis scutum longitudine latius; parapsides conspicuæ, extantes;

scutellum ovatum, valde convexum: metathorax mediocris, declivis: petiolus perlongus, sat validus: abdomen ovatum, convexum, nitens, laeve, glabrum, thorace brevius, apice non truncatum; segmentum 1um magnum, dorsi plus dimidium occupans; 2um et sequentia brevia: ventralia vix conspicua: pedes simplices, subæquales; coxæ mediocres; femora gracilia; tibiæ rectæ; tarsis articuli 1o ad 4um curtantes, 5us 4o paullo longior; ungues et pulvilli minuti: alæ amplæ; ulnaris humerali paullo brevior, radialis brevis, cubitalis brevissimus, stigma fingens punctiforme.''

2. PARAPSILOGASTER VALGIUS (Walker). Male and female.

Eucharis valgius Walker, 1839, p. 11.

Psilogasteroides valgius (Walker).

''Mas.—*Viridis, antennæ nigræ, abdomen nigro-viride, pedes fulvi, femora viridia, alæ subfuscæ.*

Viridis: oculi et ocelli obscure rufi: antennæ nigræ; articuli 1us et 2us virides: abdomen nigro-viride: pedes fulvi; coxæ virides; femora viridia, apice fulva; metatibiæ pallide fuscæ, apice et basi fulvæ; tarsi flavi, apice fusci; protarsi obscuriores: alæ subfuscæ; squamulæ virides; nervi fusci. (Corp. long. lin. 1½; alar. lin. 2½.)

Sydney, New South Wales.

Fem.—Corpus convexum, nitens, rude punctatum, parce pubescens: caput sat magnum, breve, transversum, thorace latius; vertex latus, non impressus; frons abrupte declivis; oculi parvi, subrotundi, extantes: ocelli approximati, vertice in triangulum dispositi: antennæ 12-articulatæ, extrorsum crassiores, pubescentes, thorace fere breviores; articulus 1us longus, gracilis, sublinearis; 2us cyathiformis; 3us et sequentes transversi, usque ad 9um curtantes; 10us 11us et 12us arcte applicati, clavam fingentes fusiformem 9o duplo longiorum: thorax ovatus: segmentis suturæ bene determinatæ: prothorax brevissimus, supra vix conspicuus: mesothoracis scutum longitudine latius; parapsides conspicuæ, extantes; scutellum ovatum, valde convexum: metathorax mediocris, declivis: petiolus longus, sat validus: abdomen ovatum, convexum, nitens, læve, glabrum, thorace brevius, apice non truncatum; segmentum 1um magnum, dorsi plus dimidium occupans; 2um et sequentia brevia; ventralia vix conspicua: pedes simplices, subæquales; coxæ mediocres; femora gracilia; tibiæ rectæ; tarsis articuli 1o ad 4um curtantes, 5us 4o paullo longior: ungues et pulvilli minuti: alæ amplæ, ulnaris humerali paullo brevior, radialis brevis, cubitalis brevissimus stigma fingens punctiforme.''

Genus EUCHARIS Latreille.

1. EUCHARIS DELICATULA Walker. Male.

Eucharis delicatula, Trans. Ent. Soc. Lond., I, p. 377, ♂ (1862). Australia.

2. EUCHARIS IMPLEXA Walker, Trans. Ent. Soc. Lond., I, p. 377, ♀ (1862). Tasmania, Australia.

3. EUCHARIS PICEICORNIS Walker, Trans. Ent. Soc. Lond., I, p. 376, ♂ (1862).

4. EUCHARIS RUFIVENTRIS Walker. Female.

Eucharis rufiventris Walker, Trans. Ent. Soc. Lond., I, p. 378, ♂ (1862). Australia.

5. EUCHARIS SMARAGDINA Walker. Male.

Eucharis smaragdina Walker, Trans. Ent. Soc. Lond., I, p. 376, ♂ (1862). Australia.

6. EUCHARIS LARYMNA Walker. Female and male.

Eucharis larymna Walker, List Hym. Brit. Mus., Chalcid., I, p. 86, ♀ ♂ (1846).

7. EUCHARIS PYTTALIS Walker. Female; male.

Eucharis pyttalis Walker, List Hym. Brit. Mus., Chalcid., I, p. 87, ♀, ♂ (1846).

8. EUCHARIS ERIBOTES Walker. Male; female.

Walker, 1839, pp. 14-15.

9. EUCHARIS XENIADES Walker. Male.

Walker, 1839, p. 15.

10. EUCHARIS DEMOCLES Walker. Male.

Walker, 1839, p. 15.

GENUS RHIPIPALLUS Kirby.

1. RHIPIPALLUS CAMERONI Kirby.

Rhipipallus cameroni Kirby, Journ. Linn. Soc. Lond., Zool. XX, p. 37, t. 1.
Australia (?). Celebes (?).

2. RHIPIPALLUS TURNERI Kirby.

Rhipipallus turneri Kirby, Ann. Mag. Nat. Hist., XIV, p. 47 (1894). Australia.

3. RHIPIPALLUS VOLUSUS Walker. Male.

Eucharis volusus Walker. 1839, pp. 9-10.

4. RHIPIPALLUS AFFINIS Bingham. Male; female.

Male:—Length, 5 mm.

Head lenticular; clypeus triangular, deeply incised anteriorly; front below the antennæ slightly raised, smooth and shining; cheeks, face and vertex finely but somewhat obsoletely longitudinally striate; scape of antennæ short, smooth and shining; flagellum finely granulose, pilose, the hairs very short, the basal two joints simple, the rest except the apical joint with long slightly clavate rami on each side, two to each joint, apex distinctly incrassate. Thorax densely and somewhat coarsely punctured; scutellum conically produced, the apex terminating in two short teeth; at base a transverse series of foveæ or large shallow punctures; post-scutellum and median segment very coarsely cribate, the latter with two or three irregular more or less vertical carinæ; wings hyaline and iridescent; legs slender. Abdomen smooth and shining, its petiole opaque granulose. Mandibles, tibiæ and tarsi pale yellowish-brown; coxæ and femora dark blue or black; antennæ dark reddish brown; head, thorax anteriorly, scutellum and median segment, metallic green with in certain lights a bronze tint; middle of thorax above entirely coppery bronze; petiole and abdomen dark metallic blue.

The female differs from the male as follows: Clypeus not incised; antennæ moniliform, the joints simple not provided with lateral rami; scutellum not bidentate at apex, at base a deep, broad transverse sulcation within which is situated the transverse series of foveæ so conspicuous in the male; petiole of abdomen much shorter. Abdomen as in the male. Antennæ paler, head and thorax more bronze than green; abdomen a darker blue.

Habitat: Townsville, Queensland. July 30, 1902. Also in March and October.

Types: In the Hope Department; cotypes in British Museum of Natural History.

Superficially this form closely resembles the type of the genus (*R. volusus*, Walker) but besides other points of difference it is easily separable by the sculpture of the thorax which in *volusus* has the humeral angles of the thorax conspicuously smooth and shining, not coarsely punctured and no carinæ on the median segment.

F. P. Dodd (Transactions Entomological Society of London, May 29, 1906, p. 123) states: "These bright little Chalcididæ I have bred frequently from the pupæ of the fine long-jawed ant *Odontomachus* sp., several sometimes coming from the one cocoon . . . , 1 worker ant identified by Prof. Forel as *Odontomachus ruficeps,* Sm., subsp. *coriarius* Mayr., . . ."

GENUS SCHIZASPIDIA Westwood.

1. SCHIZASPIDIA MURRAYI Kirby. Male.

Schizaspidia murrayi Kirby, Ann. Mag. Nat. Hist., III, p. 403, ♂ (1884).

Australia. Tongatabu.

2. SCHIZASPIDIA RUDIS Westwood.

Schizaspidia rudis Westwood, Thesaur. Ent. Oxon., p. 152 (1874). Australia.

3. SCHIZASPIDIA DODDI Bingham. Male.

Length, 5 mm. Mandibles sickle-shaped with three teeth, apical tooth long acute, two small teeth on the inner margin; clypeus short quadrate with the cheeks and face below the base of the antennæ transversely striate, the striæ curving round upwards and becoming vertical behind and between the eyes, vertex longitudinally striate; scape of antennæ smooth, flagellum finely granulose, first joint simple, rounded, remaining joints throwing outward comparatively short, slightly clavate rami. Thorax short and stout, densely and somewhat deeply punctured; scutellum produced, elongate conical, overhanging the median segment and bearing a stout bifurcate process at apex, the points of the fork blunt, with a tooth on the inner side of each; postscutellum and median segment vertical and vertically striate the division between them well marked. Abdomen petiolate, petiole shorter than the rest of the abdomen which is subobconically depressed above and broadly and bluntly rounded posteriorly. Mandibles, scape of antennæ and coxæ, femora, tibiæ and tarsi of the legs pale yellowish brown; flagellum darker brown; head and thorax rich golden bronze with in certain lights scattered green and purple points; wings hyaline iridescent; abdomen shining bronze-brown. Expanse, 12 mm.

Habitat: Townsville, Queensland. January, 1903.

Type: Hope Department.

F. P. Dodd (place cited above) states: ". . . is a great rarity and the only specimen I have bred from several lots of pupæ of a large ant, *Camponotus* sp."

4. SCHIZASPIDIA QUINQUEGUTTATA new species.

Male:—Length, 5.30 mm.

Running to *Schizaspidia* Westwood but the antennæ only 12-jointed, the petiole of the abdomen very long and slender, distinctly longer than the body of the abdomen. Scutellum armed with a short prong (or two short, stout teeth) whose base is quadrate and longer than the arms or teeth, the whole less than half the length of the scutellum. Head, propodeum except latero-cephalad, metapleurum, mesopleurum except dorsad, venter of meso- and metathorax; coxæ (also venter of prothorax cephalad of coxæ), teeth (but not the base) of the scutellar prong; a large hive-shaped spot at cephalic margin of scutum at meson, reaching to middle (and proceeding ventrad a short distance on to face of the exceedingly short pronotum); an oblique, ovate spot a little caudad of the middle on each parapside and a transverse elliptical spot on each axilla, dark metallic purple with a bronze reflection. Petiole and legs white, the former broadly ringed with fuscous distad of middle. Rest of body yellow brown but the dorsum of abdomen jet black. Fore wing hyaline but with a distinct sooty spot appended from the end of the venation about the stigmal vein. Mandibles as in *Orasema*

Cameron. Parapsidal furrows straight, meeting at apex. Head finely, circularly striate, the thorax foveate-punctate. Antennæ 12-jointed, no ring-joint; scape very short, twice the length of the very short pedicel which is longer than wide; no distinct club. Funicle 1 distinctly the longest, the following joints all more or less equal, gradually shortening, a little more than half the length of 1 which is elongate.

From one male captured in jungle, January 18, 1914 (A. P. Dodd).

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 3288*, Queensland Museum, Brisbane, the specimen on a tag, the head on a slide.

Genus CHALCUROIDES Girault.

Agreeing with *Chalcurella* Girault but the scutellum terminating in a minute, upturned spinelike plate nearly as in *Epimetagea* Girault and the antennæ bear paired branches after the fifth funicle joint, the first five funicle joints with single branches from opposite sides alternately. Joints 2-5 short, joint 1 as long as a third or more of the long club, the funicle joints lengthening after the fifth; pedicel very short; twelve joints, no ring-joint. Scutellum with a median groove. Mandibles with one and two teeth within, respectively.

1. CHALCUROIDES VERSICOLOR Girault. Male. Genotype.

Length, 3.85 mm.

Metallic green, the axillæ and rest of thorax distad of them, purple, the abdomen blue, the long petiole greenish and roughened like the thorax; face bluish about the antennæ, striate; antennæ black (submetallic); wings hyaline, the venation brown. Legs dark, submetallic, the knees, tips of tibiæ and tarsi brownish.

Habitat: Townsville, Queensland. Parasitic upon *Myrmecia* species.

Type: No. *I. 1352*, South Australian Museum, Adelaide, tag and slide.

Genus CHALCUROIDELLA Girault.

Like *Chalcurella* Girault but the antennæ with paired branches after the third funicle joint and thus like those of *Chalcuroides* but the third funicle joint bears a shortened second branch which is a fifth or less the length of its opposite or any of the branches; twelve antennal joints, no ring-joint, all the funicle joints with branches. Mandibles as in *Orasema*.

1. CHALCUROIDELLA ORIENTALIS Girault. Male. Genotype.

Length, 3.20 mm.

Dark metallic purple, the wings hyaline, the branches of the antenna dark chocolate brown; coxæ and femora concolorous, the cephalic femora less concolorous, the rest of the legs brown; abdomen except petiole and base, dark chocolate brown, venation black. Rugosely punctate, the head striate weakly, glabrous ventral half of face. Propodeum with a distinct lateral groove, otherwise convex, the scutellum with a very obscure median groove. First funicle joint as long as the next three combined, the club joint long, capitate, without branches, straight and longest. From lateral aspect scutellum with two upturned teeth in a longitudinal line near or on the apex. Petiole aciculated, dark greenish; posterior coxæ shining, very dark. Corrected description from types.

Habitat: Gordonvale (Cairns), Queensland. Forest, April 15, 1912.

Types: No. *Hy 3289*, Queensland Museum, Brisbane, two males on tags (two pins), a head on a slide.

GENUS CHALCURELLOIDES Girault.

Like *Chalcurella* Girault but the scutellum as seen from beneath is faintly bidentate (or with a short emarginate plate) and the antennæ bear paired branches after the fourth segment, the first, second and fourth funicle joints with a single, rather long branch from the same side, the third joint with a very short branch; first funicle joint moderately long. Propodeum with a groove on each side, the median groove of scutellum subobsolete. Wings hyaline. Antennæ 12-jointed. Also somewhat like *Chalcuroides*. No ring-joint. Mandibles as in *Orasema*.

1. CHALCURELLOIDES HYALINUS Girault. Male. Genotype.

Length, 4 mm.

Æneous or coppery green, the propodeum green, also the abdomen and its petiole, the latter alutaceous, the abdomen and the posterior coxæ shining and smooth. Legs dark brown, the coxæ, posterior femora and proximal half of intermediate femora (more or less) concolorous with the body; cephalic femur subfuscous. Antennæ concolorous, suffused lightly with brownish. Thorax rugosely punctate, the head finely striate. First single branch of antennæ shorter than the other two long ones. Venation nearly black. Apex of abdomen yellowish brown. Scutellum rugoso-punctate. Petiole twice the length of the hind coxæ. Type re-examined.

Habitat: Gordonvale (Cairns), Queensland. Forest, April 16, 1913.

Type: No. *Hy 3290*, Queensland Museum, Brisbane, the male on a tag, the head on a slide.

GENUS THORACANTHA Latreille.

1. THORACANTHA EMERSONI new species. Male.

Length, 3.75 mm.

Metallic darkish green with purplish reflections, the long abdominal petiole concolorous, the abdomen brick red; femora fuscous, the tibiæ lighter, the tarsi still somewhat paler; antennæ dark brown (chocolate), their branches the same color; face longitudinally striate but smooth below the antennæ, on each side with a groove leading from each bulla to the mouth. Scutellum with an obscure median groove, thickly prolonged somewhat at end, then terminating in a prong like the two arms of a tuning-fork. Antennæ 12-jointed, with nine branches on the nine joints of the funicle, the single club joint as long as the scape. Mandibles with one and two teeth within respectively. Mesoscutum with the hind angles subacute. Thorax rugulose and with short pilosity, the rugulosity transverse on scutum, longitudinal on scutellum. Petiole about twice the length of the hind coxæ.

The antennæ of this species are 12-jointed while those of *Thoracantha* are 11-jointed; also the scutellar processes seem quite different but for the present the species is placed here.

Described from three males captured by sweeping foliage and grass in a forest, April 13, 1913.

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 3291*, Queensland Museum, Brisbane, a male on a tag.

The species is respectfully dedicated to R. W. Emerson.

Rightly, a study of this family should be based upon large series of reared specimens, since general collecting yields but very few females. For this reason, a large number of forms have been left undescribed. A most unsatisfactory state of affairs. However, the family needs intensive study over a comparatively long period of time. All the species seem to be parasitic upon the larvæ or pupæ of ants.

AUSTRALIAN HYMENOPTERA CHALCIDOIDEA—XI.*

The Family Eurytomidæ with Description of New Genera and Species.

By A. A. Girault.

Family EURYTOMIDÆ.

This is doubtless the most difficult family of the whole complex and the genera need careful revision.

EURYTOMINI.

Genus EURYTOMA Illiger.†

Synonym: *Bephratella* Girault.

1. EURYTOMA PIDYTES Walker. Male and female.

Walker, 1839, p. 2.

"Mas et Fem. *Atra, antennae nigrae, pedes nigri fulvo cincti, alae limpidae.*

Mas et *Fem.*—Atra: oculi et ocelli rufi: antennæ nigræ: *mari* pedes fulvi; coxæ nigræ; tarsi apice fusci; meso- et metapedum femora nigra, tibiae piceo-cinctae: *fem.* pedes obscuriores; tibiae plerumque nigrae: alae limpidae; squamulae piceae; nervi picei, basi pallidiores. (Corp. long. lin. ¾—¼; alar. lin. 1¼—1⅔).

Hobart Town, Van Dieman's Land; and in March at King George's Sound, Australia.

Fem.—Corpus convexum, longum, sublineare, fere cylindricum, obscurum, punctatum, parce hirtum: caput transversum, breve, thoracis latitudine: antennae clavatae, graciles, thorace paullo breviores; articulus 1us gracilis, sublinearis: petiolus brevis: abdomen longiovatum, subcompressum, nitens, laeve, fere glabrum, apice acuminatum, thorace vix brevius: segmenta subaequalia: alae mediocres."

2. EURYTOMA TELLIS Walker. Female.

Walker, 1839, p. 2.

"Fem. *Atra, antennae nigrae basi fulvae aut piceae, pedes nigri fulvo-cincti, tarsi flavi, alae sublimpidae.*

Atra, pilis albis vestita: oculi et ocelli rufi: antennae nigrae; articulus 1us fulvus, apice piceus; 2us apice fulvus: oviductus fulvus: pedes nigri; trochanters fulvi, tibiae piceae, basi et apice fulvae; tarsi flavi, apice fusci; protarsi fulvi: alae sublimpidae; squamulae piceae; nervi picei, basi pallidores. (Corp. long. lin. 1; alar. lin. 1⅔.)

Var. β.—Antennis articulus 1us piceus.

Sydney, New South Wales.

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* Contribution No. 34, Entomological Laboratory, Bureau of Sugar Experiment Stations, Bundaberg, Queensland.

† For additional descriptive details, *see* table of species.

Fem.—Corpus convexum, sublineare, punctatum, obscurum, parce hirtum: caput thorace vix latius: antennae clavatae, robustae, pilosae, thorace breviores; articulus 1us gracilis, sublinearis; 2us longicyathiformis; 3us et 4us brevissimi; 5us et sequentes breves, usque ad 9um latescentes; clava longiconica, articulo 9o latior et plus dulpo longior: petiolus brevis: abdomen ovatum, subcompressum, nitens, laeve, fere glabrum, thorace non longius; segmentum 1um maximum, 2um et sequentia brevissima: alae mediocres.''

3. EURYTOMA ARETHEAS Walker. Male and female.

Walker, 1839, p. 3.

''Mas et Fem. *Atra, antennae nigrae, pedes nigri, tarsi fulvi, alae limpidae.*

Atra: oculi et ocelli rufi: antennae nigrae: pedes nigri; trochanteres picei; genua fulva; tibiae apice fulvae; tarsi fulvi; propodeum tibiae fulvae, tarsi obscuriores: alae limpidae; squamulae piceae; nervi proalis picei, metalis fusci. (Corp. long. lin. ¾—1; alar. lin. 1⅓—1½).

March, King George's Sound, Australia.

Mas.—Corpus convexum, sublineare, punctatum, obscurum, parce hirtum: caput thorace vix latius: antennae graciles, noniliformes, verticillato-pilosæ, thorace paullo longiores: petiolus sat longus: abdomen ovatum, compressum, nitens, laeve, fere glabrum, thorace brevius et angustius: alae latae.''

4. EURYTOMA ELEUTHER Walker. Male.

Walker, 1839, pp. 3-4.

''Mas. *Atra, antennae nigrae apice piceae, pedes fulvi piceo et fusco cincti, alae limpidae.*

Mas.—Atra: oculi et ocelli rufi: antennae nigrae, apice piceae: pedes fulvi; coxae piceae; femora picea, apice fulva; meso- et metatibiae fusco cinctae; protarsi fusci: alae limpidae; squamulae piceae; proalis nervi picei, metalis fusci. (Corp. long. lin. 4/5; alar. lin. 1½.)

Hobart Town, Van Dieman's Land; and in March at King George's Sound, Australia.

Fem.—Corpus longum, angustum, cylindricum, punctatum, parum nitens, parce hirtum: caput thorace paullo latius: antennae subclavatae, graciles, corpore breviores: petiolus brevis: abdomen fusiforme, nitens, laeve, fere glabrum, thorace vix brevius: alae angustae.''

5. EURYTOMA AUSTRALIENSIS Ashmead. Female.

Length, 2.4 mm.

''Black and similar in structure to *E. studiosa* Say, clothed with a sparse white pubescence. Antennæ wholly black; tegulæ, tips of femora, tibiæ, except a subfuscous median blotch *outwardly* and all tarsi honey-yellow. Pedicel small, obconic, very little longer than thick and smaller than the first joint of funicle; funicle 5-jointed, the joints nearly equal in size, submoniliform; club 3-jointed, as long as last three joints of funicle united. Wings hyaline, venation brown, the subcostal vein yellowish toward base. Hind coxæ outwardly toward base shagreened. Abdomen conic-ovate, smooth and polished except the short petiole, which is rather coarsely shagreened; fifth dorsal segment longer than second and third united.''

Habitat: Australia.

Type: No. *4883,* United States National Museum, Washington, D.C., U.S.A.

6. EURYTOMA EUCALYPTI Ashmead. Male and female.

Length, 2.6 to 3 mm.

Black; anterior angles of pronotum, as seen from side, with a yellowish spot, seen from above, invisible; antennæ, except *apex* of scape and base of pedicel which are black; mandibles, tegulæ and legs, except hind coxæ and middle of hind femora, ferrugineous or brownish yellow;

wings hyaline, costal vein yellow, marginal, stigmal and postmarginal veins brown-black, the latter subpetiolate, ending in a large rounded stigma with an uncus.

Vertex of head and thorax above clothed with a rufous pubescence, that on the face, sides of thorax and metapleura white or silvery white.

Funicle 5-jointed, the joints fluted and a little wider than long. Sides of thorax and parapsides *broadly* along sutures opaque and coriaceous. Marginal and postmarginal veins about of an equal length but the former stout, the latter acuminate; stigmal vein very short, ending in a large rounded stigma as in *Megastigmus*, with an uncus. Abdomen ovate and except segments 6 and 7, smooth, highly polished; the petiole which is hardly longer than thick and segments 6 and 7 finely rugulose or shagreened; fourth body segment very long, occupying fully half the whole surface of the abdomen.

The male measures from 2 to 2.4 mm. and agrees with the female except in its antennal and abdominal characters; joints of funicle excised and petiolate at apex, the basal portion of the joints with whorled hairs; basal part of first joint nearly twice as long as thick, basal part of the following being quadrate or nearly so; abdomen with petiole four times as long as thick, shagreened and with a grooved line down centre; body subglobose, segments subequal; hind coxæ opaque, coriaceous.

Habitat: Uralla, New South Wales. From galls on *Eucalyptus.*

Type: No. *4884*, United States National Museum, Washington, D.C., U.S.A.

7. EURYTOMA BINOTATA Ashmead. Female.

Length, 3.5 mm. to 5 mm.

Black, clothed with a whitish pubescence; pronotum with two oblong oval yellow spots, one on each anterior angle and both distinctly visible from above; scape of antennæ, pedicel at apex and legs except coxæ and a blotch on the middle of femora above, pale ferruginous; rest of antennæ and the coxæ black. Wings hyaline, venation brown, the marginal vein a little longer than the postmarginal; stigmal vein normal, very nearly as long as the postmarginal.

Head and thorax closely umbilicately punctate; funicle joints a little longer than thick; abdomen conic-ovate, subsessile, a little longer than head and thorax united, acutely pointed at apex, the sides of segments 4 to 7 ciliate with white hairs, the fourth segment and beyond very delicately shagreened at sides.

Habitat: Sydney, New South Wales. From galls on the turpentine tree.

Type: No. *4884*, United States National Museum, Washington, D.C., U.S.A.

8. EURYTOMA BRACHYSCELIDIS Cameron. Male and female.

" Black, covered with whitish pubescence; trochanters, apex of femora, tibiæ and tarsi pale testaceous, oral region and almost the upper half of the propleuræ rufo-testaceous, under side of flagellum fuscous; the latter densely covered with a microscopic white pile; wings hyaline, nervures dark fuscous. The male has the face, clypeus, the lower orbits and the malar space testaceous. ♂, ♀, length, 1.5—2.5 mm.

Stowell, Victoria; bred from coccid (apiomorpha) galls on *Eucalyptus* sp. (C. Daly).

Antennæ in female short, thick, the second joint twice longer than wide, becoming gradually widened towards the apex; scape distinctly narrower than it, the other joints wider than it is long, the last conical, the narrowed parts of the joints in the male testaceous; the hairs are stiff and longer than the joints. Marginal nervure as long as the postmarginal and thicker than it; stigmal shorter than the latter, the lower thickened part semicircular, emitting a branch from the apical basal part. Parapsidal furrows shallow but distinct. Abdomen smooth and shining, the apical segments fringed with white hair.

This is probably a variable species. The face in the female may be broadly testaceous below. The fourth abdominal segment occupies the greater part of the abdomen. The testaceous mark on the pronotum varies in size; it is not visible from above. The tarsi may

be infuscated to a greater or less extent in the middle. There is no distinct club on the antennæ in the female, all the joints being of equal width to the base of the last. The abdomen is distinctly shorter than the thorax; it is almost sessile, the petiole being very short.''

9. EURYTOMA CLELANDI Cameron. Female.

Length, 2 mm.

Black; oral region, underside of antennal scape, lower half of the upper inner orbits, the upper part gradually narrowed, malar space, mandibles, palpi and propleuræ entirely, rufo-testaceous; legs of a paler testaceous color, the four anterior femora slightly, posterior broadly, black above; wings hyaline, nervures black behind, testaceous in front; marginal vein distinctly longer and thicker than the postmarginal; the stigmal as long as the latter, its thickened apex obliquely narrowed from the base and apex to the centre, the two parts being of equal size; it has no projection.

The second joint of the antennæ is longer than wide and is distinctly narrower than the third, which is almost twice its length and distinctly wider than it; it is twice longer than wide; the other joints shorter, wider than long. The pubescence is white and dense; it is much longer on the metanotum. Head and thorax coriaceous, the pro- and mesonotum more or less transversely striated; the mesopleuræ finely, closely, obliquely striated; the metapleuræ much more closely striated. Parapsidal furrows straight, oblique, distinct. There is an aciculated line down the middle of the scutellum. The ventral surface of abdomen and the lower half of its side are testaceous.

Habitat: West Australia.

Type: Query.

This species belongs properly to *Xanthosoma.*

10. EURYTOMA TASMANICA Cameron. Male and female.

''Black; flagellum of antennæ, including the pedicel, testaceous; legs yellowish testaceous, paler than the antennæ; coxæ and hinder femora (more broadly in male than in female) black; wings hyaline, the nervures pale testaceous. Mandibles in both sexes rufo-testaceous, their teeth black; in the female there is a longish conical mark on either side of the clypeus; in the male this mark extends slightly obliquely up on either side of the centre of the face to near the antennæ, the clypeus being entirely rufo-testaceous. The antennæ in the male are black, except the pedicel and the narrowed parts of the flagellar joints are testaceous; the hairs are stiff, black and longer than the joints. Pubescence of head, thorax and legs white, moderately dense. Abdominal petiole in male as long as hind coxæ. Male and female, length, 2 mm.

Launceston, Tasmania (F. M. Littler).

Head above opaque, the face more shining. Thorax aciculated, pronotum sparsely, umbilicately punctate. Basal third of mesonotum finely, closely, transversely striated; the rest strongly aciculated, sparsely punctured, the scutellum finely, closely punctured and with some scattered punctures. Pro- and base of mesopleuræ opaque, alutaceous; the apex of the latter finely, closely reticulated. Metapleuræ finely rugose, opaque. Pedicel of antennæ in female twice longer than wide, the second joint roundly narrowed at base, as long as wide, the others to the club wider than long. Abdomen very smooth and polished, the petiole in female short; fifth segment much longer than the others, fully one-half the total length of the body. Stigmal branch with the knob longish, semicircular, projecting at the apex above.''

11. EURYTOMA XANTHERELLA new species. Female.

Length, 2.20 mm.

Honey yellow, the wings hyaline, the venation nearly black; the abdominal petiole, base of abdomen rather broadly along the meson for some distance and tip of ovipositor (valves) fuscous, the flagellum dusky yellowish; scape and legs concolorous. Marginal vein nearly twice

the length of the stigmal. Propodeum with a median channel. Mandibles tridentate; two tibial spurs on hind legs. First funicle joint longer than wide, the remaining four subglobate but still a little longer than wide. First club joint subquadrate. Abdomen glabrous, the petiole over twice longer than wide.

Habitat: Gordonvale (Cairns), Queensland. Jungle, June 16, 1913 (A. P. Dodd).

Type: No. *Hy 3220*, Queensland Museum, Brisbane, the female on a tag, the head and hind legs on a slide with type *Atoposoma lanei*.

12. EURYTOMA NELSONIA new species. Female.

Length, 2.45 mm.

Opaque black, the abdomen except the blackish median line at proximal third or more and extreme tip, brown; legs honey yellow, the tarsi paler; antennæ dusky brown, the first three funicle joints cylindrical oval, subequal, the remaining two somewhat shorter; first club joint subquadrate, shorter than the second. Abdomen glabrous, the petiole long, the fifth segment longer than wide, from lateral aspect, the abdomen long ovate. Mandibles tridentate. The club is only 2-jointed. Scutum uniformly punctate, the punctures of thorax not deep.

Habitat: Gordonvale (Cairns), Queensland. Jungle, June 16, 1913 (A. P. Dodd).

Type: No. *Hy 3221*, Queensland Museum, Brisbane, the female on a tag, the head on a slide with slide type of *Elasmus pallidicornis*.

13. EURYTOMA FLAVITEGULA new species. Female.

Length, 2.30 mm.

Black and pubescent, the legs reddish brown including the coxæ, the tegulæ yellow, the fifth abdominal segment reddish, except at proximal third above (and also venter of 2-4); the tips of tibiæ and tarsi lemon yellow; wings hyaline, the venation pale yellow. Antennæ yellow-brown, the distal two funicle joints wider than long, the first funicle joint quadrate, longer than the pedicel. Disk of propodeum concave. Segments 4-6 of abdomen delicately scaly cephalad and nearly all of segment 6. Pro- and mesopleura punctate, the latter longitudinally striate caudad. Posterior margin of pronotum straight, the parapsidal furrows complete, the antennæ 10-jointed with one ring-joint, the funicle 5-jointed. Abdomen and venation as in *Eurytoma* except that the marginal vein is a little thickened and only slightly longer than the stigmal which is subequal to the postmarginal. Posterior tibia with two spurs. Pronotum nearly as long as the scutum. Umbilicately punctate uniformly, the punctures shallow.

Habitat: Capeville (Pentland), Queensland. Forest, December 27, 1912.

Type: No. *Hy 3222*, Queensland Museum, Brisbane, the female on a tag, the head and a hind leg on a slide.

14. EURYTOMA LINCOLNI Girault. Female.

Length, 2.50 mm.

Black, punctate, the abdomen reddish except at proximal third dorsad, the wings hyaline, the flagellum (including pedicel) black, the scape brownish at extreme base; legs except coxæ, red-brownish, paler at the tarsi; petiole of the abdomen black. Postmarginal vein slightly longer than the stigmal. Tegulæ brown. Funicle joints ovate, the first longest, much larger than the pedicel.

Habitat: Port Lincoln, South Australia.

Type: No. *I. 1262*, South Australian Museum. Tag and slide.

15. EURYTOMA MAZZINII Girault. Female.

Length, 1.80 mm.

Robust. Black, the head and thorax with short, greyish pubescence; abdomen ventro-meso-proximad brownish; coxæ and femora concolorous, tibiæ and tarsi reddish brown, also

the knees, most of the distal half of intermediate femora and all of the scape. Antennæ black, 11-jointed, the club 3-jointed, one ring-joint; joint 1 of funicle longest, ring-joint yellow. Wings hyaline, the postmarginal vein nearly as long as the marginal, slightly longer than the stigmal.

Habitat: Mount Tambourine, Queensland.

Type: No. *I. 1350,* South Australian Museum, Adelaide. Tag and slide.

16. EURYTOMA CARLYLEI new species.

Female:—Length, 2.65 mm.

Black, the wings hyaline, the tegulæ, legs, segment 5 of abdomen (except along dorsum at meson), side of segment 6 and the scape, honey yellow. Abdominal petiole slender, distinctly much longer than wide. Marginal vein long for the genus, about one and three quarter times the length of the stigmal which is distinctly shorter than the postmarginal. Funicle 1 a little over half the length of the scape (excluding bulla). Propodeum with a median line of punctures which do not form a channel, the surface uniformly coarsely umbilicately punctate, or like the rest of the thorax and the head; abdomen polished, finely scaly near anterior margins dorsad of segment 5, segments 6 and 7 wholly scaly dorsad, the petiole densely shagreened. Scape black at tip above. Last funicle joint oval; club only 2-jointed, the antennæ 10-jointed, five funicle joints; joint 1 of club a little wider than long, a little over half the length of the second. Abdomen greatly convexed above, segment 5 the longest.

Described from one female captured by sweeping along edge of jungle, May 18, 1913 (A. P. Dodd). Dedicated to Thomas Carlyle.

Habitat: Kuranda, Queensland.

Type: No. *Hy 3223,* Queensland Museum, Brisbane, the above specimen on a tag, an antenna and a fore leg on a slide.

17. EURYTOMA PICUS Girault. Female.

Length, 2.85 mm.

Robust. Black, the legs, tegulæ and scape rich reddish brown, the hind coxæ black, the wings hyaline; flagellum brownish yellow; knees and tips of tibiæ yellow. Propodeum with a rather broad median groove. Venation pale; postmarginal and stigmal veins subequal. Scape obclavate; pedicel a little shorter than funicle 1 which is longest of the funicle, much longer than wide, about twice the length of funicle 5 which is somewhat wider than long, funicle 4 a little longer than wide, funicle 2 subequal to the pedicel. Club with three distinct apparent joints, the antennæ 11-jointed. Mandibles tridentate. Hind tibiæ with two spurs. Pronotum with a more or less distinct, obtuse median carina. Punctuation not quite as dense as usual, the cephalic part of scutum densely transversely lineolated. Prothorax marked as in *acaciæ.* Segment 5 of abdomen plainly longest; tip of valves of ovipositor brown. Abdomen glabrous but distal segment dorsad plainly scaly. Type re-examined.

Habitat: Gordonvale (Cairns), Queensland. Reared from *Eucalyptus* twigs, October 16, 1913.

Type: No. *Hy 3224,* Queensland Museum, Brisbane. Tag and slide.

18. EURYTOMA QUEENSLANDENSIS Girault. Female; male.

Length, 2.50 mm.

Black, the abdomen reddish except above at proximal third (segments 2 to 4); face, cheeks and mesal margin of eye on vertex lemon yellow (vertex and scrobes black) as is also the lateral aspect of the pronotum; tegulæ and legs fuscous, the tarsi paler. Wings hyaline, the venation blackish. Marginal vein distinctly longer than both the stigmal and postmarginal. Posterior coxæ black laterad and the abdominal petiole. Scape lemon yellow, black at tip, the pedicel black, yellow at tip, the rest of the antennæ black. Segment 5 of abdomen wider than long (cephalo-caudad), the abdominal segments polygonally reticulated. Pubescence

conspicuous only on the antennæ. A more or less obscure brownish area in the disk of each axilla. Caudal tibiæ with two spurs. Antennæ with one (yellow) ring-joint, five funicle joints, the first the longest but yet only somewhat longer than broad; 2 and 3 subequal, a little shorter, subglobose, as long as the pedicel but much larger; remaining two joints a little wider than long.

The male is the same but the abdomen is nearly all black, reddish beneath and very small, ovate, its petiole longer. Joints of funicle petiolate and clothed with long hairs, the distal club joint and the petioles of the funicle yellowish. Scape black. A round brown spot on each side of the meson just ventrad of the occipital margin of vertex; disk of propodeum reddish.

Habitat: Brisbane, Queensland. Reared from galls.

Type: No. *Hy 3225*, Queensland Museum, Brisbane. Now reduced to two females on a tag.

This is a somewhat variable species; the upper apex of the eye may be margined with brown. The males vary considerably: All of the venter and sides of abdomen may be yellowish, the two spots near the occipital margin of the head confluent, the lateral portions of the axillæ reddish and the scape yellow; coxæ concolorous with legs, sides of thorax yellow. The abdominal petiole in this sex may be wholly black or else reddish.

19. EURYTOMA NIGRELLA new species. Female.

The same as *queenslandensis* but the abdomen and scape black, the middle of the sides of the former and along the venter obscurely reddish brown; tip of pedicel and ring-joint lemon yellow, the face yellow only beneath the antennal bulbs. Pronotum with a triangular yellowish spot in the lateral aspect at cephalic margin. Legs pale yellowish except caudal coxæ. Brisbane, Queensland. From galls with *queenslandensis.*

Type: Lost.

20. EURYTOMA PATRUELIS new species. Female.

Identical with *queenslandensis* but the hind coxæ are all yellowish (instead of being black on each side) and in the pair of median grooves on the propodeum there are three foveæ, the third (caudal) as long as the other two combined (in *queenslandensis* the third fovea is distinctly shorter than the other two combined). Also the sculpture on the propodeum, just laterad of the middle and caudo-laterad of the median grooves is finer in this species. The umbilicate punctures in all the forms are not confluent, the space between them scaly reticulate; also the axillæ are all black, the margins of the eyes narrowly yellow. Data as with *quadriguttatus.*

The petiole is much longer than wide in *E. xantherella* and *E. nelsonia* but in *patruelis* it is somewhat shorter.

21. EURYTOMA QUADRIGUTTATUS new species. Female.

The same as the preceding but the lemon yellow on propleurum advances onto the pronotum and is plainly visible from above, there are two orange yellow dots in the upper occiput mesad and a more or less obscure yellowish spot on propodeum centrally on each wing. Propodeum at caudal half on each side of median channel somewhat more distinctly punctulate.

The males of both species have the abdomen wholly black and the two dots on the upper occiput confluent.

Compared with types of the allied form.

Habitat: Gordonvale (Cairns), Queensland. Reared from galls on forest trees, September, 1913 (E. J. Girault).

Types: No. *Hy 3226*, Queensland Museum, Brisbane, a pair on a tag with two female types of *patruelis.*

22. EURYTOMA ACACIÆ Girault. Female; male.

Length, 3.10 mm.

Black, punctate, the wings hyaline; a small pale yellowish area on the lateral aspect of the prothorax, cephalad; legs black, the trochanters, knees, tibiæ and tarsi dark brown, the posterior tibiæ black centrally. Distal funicle joint and club brownish. Pedicel globular, first funicle joint one and a third times longer than wide, the distal joint subquadrate. Head and thorax pubescent. Petiole of abdomen rugulose. Postmarginal and stigmal veins subequal.

The male measures 3 mm. and is the same but the first joint of the antennal funicle nearly as long as the scape, the pedicels of the joints brownish; antennæ 10-jointed, the thick hairs brownish and shorter than the diameter of any of the joints.

Habitat: Victoria. From cynipid galls on *Acacia longifolia.*

Types: No. *Hy 3227*, Queensland Museum, Brisbane, one male, two females on a card.

23. EURYTOMA SECUNDA new species.

Female:—Length, 3 mm.

In my table (if the pale yellow center of the cephalic margin of propleurum is ignored) runs to *pyrrhocerus* Crawford but the antennæ are wholly black, the marginal vein distinctly somewhat longer than the postmarginal, funicle 5 is subquadrate, the median channel of propodeum is confused toward tip, the mesopleura densely punctulate along cephalic half, limited caudad by a line of larger punctures, between these and the punctulate portion with a small smooth central area and dorsad with short, oblique sulci, ventrad finely punctulate (the part caudad of the densely punctulate area—except the small triangular ventral portion which belongs to the caudal part—is the mesopleurum); thorax cephalad of the punctulate mesopleurum, umbilicately punctate but the propleurum densely scaly. Abdomen glabrous, segment 4 with a trace of sculpture cephalad, 6 and 7 finely scaly. Petiole of abdomen somewhat longer than wide. Mandibles tridentate. Tips of tibiæ and tarsi white, the trochanters and tibiæ reddish brown. Hind tibiæ with two spurs. Pedicel round; funicle 1 somewhat longer than wide. Thoracic punctures shallow. Postmarginal vein a little longer than the stigmal. The male has the caudal tibiæ black except at tips broadly, the petiole over twice longer than wide; the male antennæ are 10-jointed, the club distinctly 3-jointed, one ring-joint; distal three funicle joints quadrate, 1 longer, all foliaceously produced along one side, the scape also but suddenly narrowed at tip. Club at tip with a minute fourth joint but this is not articulated.

In the table, this species will run to *acaciæ* from which it differs in having all the tibiæ reddish brown. Compared with type *acaciæ.*

From many specimens of both sexes reared from a gall, May, 1914 (H. Hacker) and from the collections of the Queensland Museum.

Habitat: Brisbane, Queensland.

Type: None designated.

24. EURYTOMA NYMPHA (Girault). Female.

Bephratella nympha Girault. Genotype.

Length, 3.30 mm.

Bright orange yellow, the dorsum of abdomen with four black stripes across it, the fourth stripe bow-shaped; caudad of it a very small cross dash of dusky at the meson. Median line of propodeum at base with a short smooth groove, the rest of the concave disk roughened nearly as much as the scutum. Ocellar area black. Tip of ovipositor, the base of the scrobes and the dorsal surface of the pedicel black. Wings hyaline. Legs pale yellow, the antennæ orange yellow, joint 1 of funicle a little over two thirds the length of the scape (excluding bulla). Marginal vein thickened, about twice longer than broad, the stigmal less than half its length, a little shorter than the postmarginal.

Habitat: Gordonvale (type) and Cooktown, Queensland. Jungle.

Type: No. *Hy 3229*, Queensland Museum, Brisbane. Tag and slide.

25. EURYTOMA PULCHRA (Girault.) Female.

Bephratella pulchra Girault.

Length, 3.15 mm.

The same as the preceding but the head with the center of the vertex and upper occiput, median line of pronotum (faintly), a rectangular area at caudal margin mesad of pronotum, somewhat over the cephalic third of scutum (except laterad), median line of latter faintly and a triangular spot connecting with it at apex, the inner caudal corners of each parapside and a small spot at the inner cephalic corner of each, the axillæ, the caudal and cephalic margins of scutellum rather broadly, the scrobicular cavity and the median line of propodeum rather broadly, black. First two funicle joints reddish brown. Abdomen, venation and antennæ about as in *nympha*.

Habitat: Gordonvale (type) and Cooktown. Queensland. Jungle.

Type: No. *Hy 3230*, Queensland Museum, Brisbane. Tag and slide.

A female of this species was captured with one of *nympha* when sweeping in jungle, March 6, 1914 at Cooktown. One of *nympha*, June 25, type habitat.

26. EURYTOMA SPECIOSA new species. Female.

Like *pulchra* but no black on propodeum, the axillæ only partly black at mesal apex while the scutum is yellow with two obscure dark spots on it cephalad, one on each side of the meson; the median line of pronotum not obscurely dusky; the black margins of scutellum much shorter. Parapsides all yellow and pronotum except center of face and a spot at meson of caudal margin.

Habitat: Gordonvale (Cairns), Queensland. Jungle, August 1, 1913.

Type: No. *Hy 3231*, Queensland Museum, Brisbane, the female on a tag.

27. EURYTOMA DUMASI new species. Female.

Length, 2.90 mm.

Black, the antennæ (except club and pedicel above) and femora reddish brown; rest of legs (except the concolorous coxæ) pallid yellowish. Wings hyaline, the marginal vein not thickened, only slightly longer than the slender stigmal. Propodeum with a median channel; funicle joints 2 and 3 subelongate, subequal, each only a fourth shorter than 1; club 2-jointed (though apparently three), the distal joint the longer; funicle 5-jointed. Segment 5 of abdomen occupying not quite half the surface. Funicle 5 a little longer than wide, 1 twice longer than wide.

Habitat: Townsville, Queensland. Forest, January 29, 1913.

Type: No. *Hy 3232*, Queensland Museum, Brisbane, the female on a tag; a slide with appendages.

28. EURYTOMA RUBRIVENTRIS new species of Girault and A. P. Dodd. Female.

Length, 4.10 mm.

Black and punctate, the fifth and sixth abdominal segments blood red (except meso-cephalo-dorsad on segment 5); antennal scape suffused with reddish, ring-joint yellow, rest of antennæ black; tegulæ dusky yellow, coxæ black; trochanters, femora and tibiæ reddish brown; tarsi, tips of tibiæ and knees pale lemon yellow. Wings hyaline, the venation golden yellow. Marginal vein distinctly longer than stigmal, the postmarginal as long as the stigmal. Thorax with greyish pubescence. Pedicel no longer than wide; funicle joint 1 distinctly longer than the pedicel, one half longer than wide, 2-4 somewhat shorter, 5 as wide as long. Club as long as the two preceding joints combined. Propodeum with a broad ovate median impression whose interior is finely rugulose; rest of propodeum rugoso-punctate, the impression more or less distinctly carinated along its sides.

Habitat: Gordonvale, Queensland, on foliage of *Melaleuca*, October 15, 1913 (A. P. Dodd).

Type: No. *Hy 3233*, Queensland Museum, Brisbane, the female on a tag, the head on a slide.

29. EURYTOMA NIGRIPES new species. Female.

Length, 3.30 mm.

Black; knees, tarsi, anterior tibiæ and antennal scape reddish brown. Wings hyaline, the venation blackish. Marginal vein not distinctly thickened, fully four times as long as wide; stigmal vein two thirds the length of the marginal; postmarginal slightly longer than stigmal. Abdomen pointed at apex, no longer than the thorax; fifth segment the longest, occupying nearly one third of the surface. Disk of propodeum concave. Antennæ 10-jointed, one ring-joint, five funicle joints and a 2-jointed club. Funicle joint 1 about two thirds the length of scape (excluding bulla), over twice as long as wide, 2-5 gradually shortening, the fifth somewhat longer than wide; club as long as scape, the first club joint subequal to funicle 5, second club joint one half longer than the first. Posterior tibiæ with two spurs. Scape black toward tip.

Habitat: Victoria. Labelled "34."

Types: In the National Museum, Victoria, two females on a tag; head and the hind legs on a slide.

30. EURYTOMA FUSCIPENNIS new species.

Female:—2.50 mm.

Black and coarsely punctate, the knees, most of cephalic tibiæ and the tarsi reddish brown, the antennæ wholly black. Fore wings smoky black except at base, the stigmal vein subequal to postmarginal and a little shorter than the marginal. Funicle joints cylindrical oval, the club 2-jointed, funicle 1 distinctly longer than wide, a little over half the length of the scape; pedicel small, globular, much smaller than distal funicle joint which is over a third shorter than funicle 1, subequal to 2, 3 and 4. Hind tibial spurs double. Cephalic margin of second segment of abdomen *rimmed,* the fifth segment much the longest. Propodeum rugose, at meson at base with a deep fovea limited laterad by a strong, oblique, short ruga and caudad by a coarse, long, transverse carina which is immediately followed by a deep declivous excavation. Scutum cephalad transversely striate.

From one female captured by sweeping along the edges of jungle, November 1, 1913 (A. P. Dodd).

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 3234,* Queensland Museum, Brisbane, the specimen on a tag, the head and hind legs on a slide.

31. EURYTOMA SILVÆ new species.

Female:—Length, 2.75 mm.

Like *pulchra* but the dorsal thorax black except the yellow lateral margins of scutum and scutellum, base of the latter and two narrow oblique yellow streaks on pronotum, one on each side, obliqued in an opposite direction from the parapsidal furrows; lateral margin of parapside also yellow. Propodeum also excepted, being concolorous (yellow). The abdomen bears six cross-stripes of black (five in *pulchra,* the fifth small), the fourth broadest, the first three rather close together, the fifth arcuate (the fourth so in *pulchra*). Antennæ with funicle 2 abruptly the shortest, scarcely longer than wide, funicle 1 longest, 3-5 subequal, cylindrical, distinctly longer than wide; pedicel shorter than funicle 2. Two hind tibial spurs; club 2-jointed. Pedicel, funicles 1-3 and side of club fuscous. Disk of propodeum concave.

In *pulchra,* funicle 2 is subequal to funicles 3-5 which are shorter than 1. The abdomen of *nympha* bears five stripes as in *pulchra* (types of *pulchra* and *nympha* re-examined).

Described from one female captured January 16, 1914 by sweeping in jungle (A. P. Dodd.)

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 3235,* Queensland Museum, Brisbane, the specimen on a tag.

32. EURYTOMA SARCOPHAGA new species.

Female:—Length, 3 mm.

Very similar to *nigripes* Girault but may be distinguished at once by having funicle 1 shorter, only about half the length of the scape, the hind tibia is less broadly black between the ends, the wings are hyaline, not distinctly stained under the marginal vein, the latter is a little shorter and the concaved basin filling the meson of the propodeum is different in sculpture having a more or less distinct median ruga running through the basin and paired cephalad. Segments 2-6 of abdomen in both species glabrous (except in *nigripes* 6 is very finely lined polygonally) and the head and thorax lightly downy. Hind tibiæ with two spurs. Valves of ovipositor white at tip.

Male:—The same except for the secondary characters, the long abdominal petiole and the lack of the median carina on the propodeal basin; also the distal half of the scape is black. Antennæ 10-jointed, the scape swollen.

Described from a number of specimens as follow: Thirteen females labelled "No. 22. Parasitic on psychid larvæ. Darwin, 10-9-13. G.F.H."; one female and two males labelled "No. 20. Parasitic on small lepidop. larvæ. Darwin, 27-9-13."; three males and ten females labelled "No. 23. Darwin, N.T. 11-10-13. From psychid larvæ."; one male, two females labelled "No. 27. Darwin, N.T. 18-10-13," and four females labelled "No. 21. Parasitic on psychid. Darwin, 1-9-13."

Habitat: Port Darwin, Northern Territory.

Types: No. *Hy 3236*, Queensland Museum, Brisbane, one male, three females on a tag; male and female antennæ and female hind legs on a slide.

33. EURYTOMA SEMIFUSCICORNIS new species.

Female:—Length, 4.10 mm.

Black, the wings hyaline; knees, tibiæ, scape and antennæ distad of funicle 1, reddish brown; distal half of tibiæ and the tarsi whitish; tegulæ variable, reddish brown to nearly black. Venation brown yellowish, the postmarginal vein slightly longer than the stigmal, both somewhat shorter than the marginal. Hind tibial spurs double. Funicle 1 elongate, a little over half the length of the scape, 5 shortest, a little longer than wide, subequal to club 1 (which as usual is well-separated from the longer distal joint); club 2 subequal to funicle 2 or 3 both of which are distinctly shorter than 1. Pedicel smaller than any of the joints following. Propodeum punctate, with an ovate median channel which includes transverse foveæ; propodeum with white pubescence. Abdomen glabrous, the distal two segments finely reticulated. Thorax not noticeably pubescent. Hind coxa densely scaly.

Male:—The same but smaller; antennæ 10-jointed, the club 2-jointed, the two joints subequal; funicle and pedicel black, the latter very short. Funicle 5 longer than wide, shortest of the funicle. Funicle 1 about four fifths the length of the scape.

Described from one male, five females labelled "37. Nat. Mus. Victoria. Out of pupa of Limacodes."

Habitat: Melbourne, Victoria.

Types: In the National Museum, Melbourne, one male, four females minutien-mounted; male and female antennæ on a slide.

34. EURYTOMA EPICEPHALÆ new species.

Female:—Length, 2 mm.

Jet black including the coxæ and antennæ; proximal half of scape or less and rest of all legs rich yellowish-brown. Wings hyaline, the marginal vein distinctly somewhat longer than the stigmal, the postmarginal a little longer than the stigmal. Tips of intermediate and caudal tibiæ and the tarsi of the same legs, white. Scape rather short; pedicel subglobular, smaller than any of the funicle joints of which 1 is hardly longer than the following three or four, somewhat longer than wide, somewhat less than half the length of the scape. Hind tibial spurs double. Propodeum with a median concavity which is very finely, densely

punctate and surrounded by the coarse punctures of the rest of the thorax. Head and thorax with short white pubescence. Venter of abdomen reddish ventro-meso-proximad. Abdomen glabrous, finely reticulated after segment 5 dorsad, laterad scaly punctate from segment 3 (on segments 3 and 4 only along cephalic margin).

Described from two females minutien-mounted, reared from *Epicephala frugicolor* (R. E. Turner).

Habitat: Brisbane, Queensland.

Type: No. *Hy 3237*, Queensland Museum, Brisbane, the above specimens minutien-mounted and a hind leg on a slide.

35. EURYTOMA SCULPTURA new species.

Female:—Length, 2.80 mm.

Like *sarcophaga* but segments 4 and 5 of abdomen are short, transverse, 4 a little the longer, the mesopleurum is uniformly punctulate (with longitudinal striæ or rugæ in *sarcophaga* divided centrally by a transverse—ventro-dorsad—narrow ruga); the sides of the abdominal segments 3-5 are distinctly, nearly uniformly reticulate and with minute pin-punctures (fainter and only on most of cephalic part of segments 4 and 5 in *sarcophaga*) except along caudal margins. Differs from *nigripes* in having the wings hyaline, *nigripes* has the reticulated sculpture faintly only on the side of segment 5, the latter in *nigripes* is distinctly much longer (nearly twice longer) than 4 but only moderately long; also in *nigripes* funicle 1 is longer, the mesopleurum caudad is rugulose, cephalad coarsely punctate (in one of the type specimens of *nigripes*, segment 5 of abdomen dorsad is barely longer than 4).

Abdomen above glabrous but segments 3-5 are sculptured as laterad but more faintly; 6 is also similarly sculptured. Propodeum with a deep median channel whose sides are carinated and which narrows distad and at base bears a short median carina. From the sides of this channel, the propodeum slopes and the sloping sides except at base are finely densely punctulate; rest of propodeum coarsely punctate. Scutum uniformly punctate. Thus the propodeum is also different from those of the other two species.

From one female caught March 17, 1914 (H. Hacker).

Habitat: Brisbane, Queensland.

Type: No. *Hy 3238*, Queensland Museum, Brisbane, the female on a tag; antenna and caudal tibiæ on a slide with type *epicephalæ*.

36. EURYTOMA GREGI new species.

Female:—Length, 2.35 mm.

In my table of species runs to *nelsonia* and allies but differs from all in having the middle and caudal femora plainly black above, their tibiæ more plainly so. Coxæ and rest of legs yellowish-brown. Marginal vein nearly twice the length of the stigmal which is subequal to the postmarginal. Scape yellow brown, blackish at tip above; rest of antenna black. Venation yellow brown, the wings hyaline. Funicle 1 somewhat longer than wide, nearly half the length of the scape, 5 oval. Tegulæ, sides and venter of segment 5 of abdomen yellowish brown, segment 5 as long as half the surface, the petiole about twice longer than wide. Dorsal thorax uniformly shallowly punctate (exceptions given later). Mesopleurum punctulate at cephalic half, longitudinally striate caudal half, with a small yellow area just under tegula. Abdomen wholly glabrous (except the small segments 6 and 7 which are slightly scaly). Propodeum a little more coarsely punctured than the scutellum, with a distinct median channel whose sides are carinated and at proximal half a median ruga runs along its interior. Propleurum more finely punctured than the notum.

From one female caught in October, 1911 (H. Hacker).

Habitat: Brisbane, Queensland.

Type: No. *Hy 3239*, Queensland Museum, Brisbane, the specimen on a tag; hind leg and an antenna on a slide with slide type of *carlylei*.

Dedicated to W. H. Greg.

37. EURYTOMA QUINQUENOTATA new species.

Female:—Length, 2.50 mm.

Reddish yellow, the wings hyaline, the propleura, abdomen, legs and head yellowish brown; occiput just above center, pedicel, ocellar area and four marks on abdomen, black. Median line of abdomen from base to first mark also black. Abdomen marked somewhat as in *nympha* but the marks do not form distinct cross-stripes (stripes which are much wider than thick) but short and broad stripes which are not more than twice wider than long (first two), the third longer than wide, conical, the narrow end proximad; the fourth marking is much smaller, a small round spot not far fom tip. Funicle 1 nearly two thirds the length of the scape, longest, 2 and 3 subequal, a fourth shorter, 4 and 5 subequal, each a little shorter than 3, a little longer than the first club joint; distal club joint distinctly the longer. Pedicel a little smaller than funicle 5 which is a little longer than wide. Venation pale yellow, the thick marginal vein a little over twice longer than wide, the short stigmal and postmarginal veins subequal. Hind tibiæ with two spurs. Propodeum with a median channel. Pronotum with a cross-row of three obscure dusky spots, the smallest at meson; pedicel black above at base.

From one female caught in jungle, April 12, 1914.

Habitat: Mulgrave River (Gordonvale), Queensland.

Type: No. *Hy 3240*, Queensland Museum, Brisbane, the female on a tag; antenna, fore wing and a hind tibia on a slide.

38. EURYTOMA ABNORMICLAVA new species.

Female:—Length, 2.80 mm. Abdomen long, subsessile, segment 5 occupying one third of the surface.

Black, umbilicately punctate, the wings hyaline, the abdomen except segments 2, 3 and 7 dorsad and the short petiole, legs, tegulæ and scape reddish; knees, tips of tibiæ and the tarsi yellowish. Venation pale brown. Cephalic margin of propleurum except ventral third lemon yellow. Head and thorax uniformly punctate. Marginal and postmarginal veins subequal, the stigmal somewhat shorter. Mesopleurum punctulate. Segments 2 and 3 of abdomen at cephalic two thirds and rest of dorsal abdomen distad of them, scaly reticulate. Propodeum with a median channel as in *bicoloriventris* but the median carina or ruga is more distinct and along each side of the channel at caudal two thirds there is a punctulate area; rest of propodeum very rudely punctate. Pedicel reddish yellow beneath. Funicle 1 distinctly longer than wide, not quite half the length of the scape, 2 a little shorter than 1, 5 subglobular. Club solid. Hind tibial spurs double. Ring-joint yellow. Runs in a group to itself after *queenslandensis*.

From one female from the collections of the National Museum of Victoria, Melbourne; "No. 23, S. W. Fulton."

Habitat: Pamong (near Murray River), South Australia.

Type: No. *Hy 3241*, Queensland Museum, Brisbane, the female on a tag, minutien.

39. EURYTOMA ROSTANDI new species.

Female: Length, 2.60 mm.

Black, the wings hyaline, the venation black. Runs to *queenslandensis* but the head ventrad of insertion of antennæ (higher dorsad on cheeks which are yellow half way up the eyes), cephalic margin of propleurum and proximal third of scape (including the bulla), bright lemon yellow. Abdomen colored as in *queenslandensis*, crimson. Tegulæ and legs yellowish brown, the caudal coxæ black. Petiole black, twice longer than wide. Postmarginal and stigmal veins subequal, each somewhat shorter than the marginal which is thrice longer than wide. Tips of tibiæ and the tarsi white. Funicle 1 somewhat longer than wide, somewhat over half the length of the rather short scape (excluding bulla), 5 a little wider than long, subquadrate. Pro- and mesopleura mostly finely punctulate, the mesopleurum caudad with

short, longitudinal rugæ. Thorax uniformly punctate (the punctures rather shallow) and with rather coarse transverse rugulosity on pronotum and scutum. Cephalic coxa with a black dot centrally laterad. Head punctures distinctly smaller, umbilicate. Segment 5 of abdomen as long as 2-4 united; sides of abdomen glabrous, the petiole at apex with rugæ; dorsal abdomen also glabrous except segments 6 and 7 which are finely scaly. Propodeum nearly perpendicular, distinctly more densely and coarsely punctured than the thorax, with a shallow median channel which is obliterated near apex.

The male has most of the mesopleurum yellow, the head so except upper occiput and the vertex, most of dorsal abdomen black; ventral aspect of caudal coxa yellow.

From one female, three males from the collections of the National Museum of Victoria, Melbourne, reared from galls, March 16, 1910 (F. P. Spry).

Habitat: Melbourne, Victoria.

Types: No. *Hy 3242,* Queensland Museum, Brisbane, one male, one female on a tag; female antennæ and a leg on a slide with type slide of *fuscipennis.*

Dedicated to Edmond Rostand.

40. EURYTOMA NIGRINOTATA new species.

Female:—Length, 3.20 mm.

Like *quinquenotata* in general color and markings of the abdomen. The following parts black: Ocellar area, upper occiput, caudal margins of pronotum rather broadly across meson, median line of scutum moderately broadly, same of scutellum somewhat more broadly, apex of scutellum broadly, propodeum, petiole, caudal coxa dorsad and the whole of the dorsal meson of abdomen forming a short cross stripe at apex of segment 3, a longer (transversely) one at apex of segment 4, a shorter, arcuate one at apex of 5 and a bottle shaped area just before the short apical black portion, the neck of the bottle proximad. Marginal vein short and thick but about twice the length of the stigmal. Pedicel black above. Funicle 1 about half the length of the scape, somewhat longer than wide. Propodeum broadly concave, the concavity rugulose. Legs pale yellow. Cephalic margin of scutellum very narrowly black. Dorsad segments 5 and 6 of abdomen pin-punctured. Propodeum at apex with a transverse row of three foveæ of which the middle is smallest. Fore wings a little stained under venation.

From one female caught June 3, 1914 in jungle (A. P. Dodd).

Habitat: Grafton, New South Wales.

Type: No. *Hy 3243,* Queensland Museum, Brisbane, the specimen on a tag with type of *speciosa.*

41. EURYTOMA SILVENSIS new species.

Female:—3.25 mm.

The same as the preceding but the black median line of scutum very narrow and obscure, that of scutellum narrower, cephalic margin of scutellum not black, the lateral margins of propodeum are broadly reddish except for a black spot at extreme cephalo-lateral angle, the caudal coxa is all pale yellowish, the black of meson of abdomen is narrowly broken just caudad of segment 5; the transverse row of three foveæ at apex of propodeum preceded by a transverse fovea. Venation paler.

From one female caught with the preceding.

Habitat: Grafton, New South Wales.

Type: No. *Hy 3244,* Queensland Museum, Brisbane, the specimen on a tag with type of preceding species.

42. EURYTOMA TRICOLORIPES new species.

Female:—Length, 2.75 mm.

Runs to *bicoloriventris* from which it differs in having the tibiæ all reddish yellow, the body is stouter, the side and venter of segment 5 of abdomen reddish (except cephalad and caudad where the black descends half way ventrad) and venter of segment 6; the punctation

is somewhat ruder and segment 5 of abdomen shorter. Tips of tibiæ and the tarsi whitish. Otherwise the same. Mesopleurum cephalad punctulate, caudo-dorsad subglabrous, caudo-ventrad punctate. Compared with type of *bicoloripes*. Hind coxa sculptured in both species.

From one female from the Queensland Museum collections, reared from a gall, July 4, 1911 (H. Hacker).

Habitat: Brisbane, Queensland.

Type: No. *Hy 3245*, Queensland Museum, Brisbane, the specimen on a tag.

43. EURYTOMA CRESSONI new species.

Female:—Length, 2.75 mm.

Like the preceding but the proximal two thirds of scape (including the bulla) and all legs reddish brown (except last two pairs of coxæ and apex and mesal aspect of cephalic coxæ); mesal aspect of middle tibiæ blackish and also the sides and venter of segments 2-4 of abdomen are reddish. The propodeum, however, differs in that there is no median channel or rather there is one shaped like that of *tricoloripes* but this is not a true channel, not excavated, the surface level or plane and from the center of this "channel" a rather large triangular area bounded by a narrow carina (apex laterad) is impunctate, coriaceous. In my table runs to *lincolni* Girault.

Described from one specimen from same collection and labelled same as the preceding.

Habitat: Brisbane, Queensland.

Type: No. *Hy 3246*, Queensland Museum, Brisbane, the specimen on a tag.

44. EURYTOMA DUBIELLA new species.

Female:—Length, 2.75 mm. Abdomen from lateral aspect rounded, only a little longer than wide, the petiole short.

Agrees with the description of *lincolni* Girault but the abdomen and legs bright yellowish brown (except coxæ; dorsum and sides of segment 2 of abdomen black, dorsum of segments 3 and 4; a minute dot in middle of side of abdomen a little before tip, immediate tip above and sometimes meson of segments 7 and 8; a triangular black spot at proximal half of meson of segment 5, its base connected with the black of segment 4 but not always present). Marginal vein twice the length of the stigmal, the venation pale. The abdomen is not long as in *nelsonia* which has the coxæ yellow. Segment 5 of abdomen as long as 2-4 united. Propodeum at meson with a broad trough-like channel. Abdomen dorsad glabrous but segment 5 cephalad obscurely scaly, the following segments more distinctly so. Pubescence silvery. Hind tibial spurs double. Head and thorax punctate, the punctures not deep. Hind coxa and cephalic half of mesopleura punctate; caudal half of mesopleura dorsad glabrous, ventrad subrugulose.

From six females reared from miscellaneous galls from forest.

Habitat: Gordonvale (Cairns), Queensland.

Types: No. *Hy 3247*, Queensland Museum, Brisbane, two females on a tag.

45. EURYTOMA BICOLORIVENTRIS new species.

Female:—Length, 1.75 mm. Abdomen from lateral aspect plainly longer than wide.

Black, punctate, the wings hyaline; tegulæ, knees, tips of tibiæ and ventral half of segments 2-5 of abdomen, yellowish brown; also cephalic tibiæ except below knee dorsad. Venation black, the marginal vein twice the length of the stigmal, not thickened, the postmarginal a little longer than the stigmal. Pedicel small, round; funicle joints subequal, much larger than the pedicel, oval, shorter than club 2. Mandibles bidentate. Palpi white. Petiole of abdomen a little longer than wide. Punctures of thorax large, rather shallow, uniform on scutum. Propodeum punctured like the thorax, with a broad, ovate median channel whose

median line is a foveate grooved line which is divided at base into two by a longitudinal ruga and which narrows distad; sides of median channel wavy but carinated. Segment 5 of abdomen as long as half the surface, the latter polished. Hind tibiæ with two spurs.

From one female taken June 25, 1914 in jungle.

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 3248*, Queensland Museum, Brisbane, the specimen on a tag with type of *nelsonia*.

46. EURYTOMA INCONSPICUA new species.

Female:—The same as the preceding but the legs and scape are yellowish brown, the fifth abdominal segment is wholly yellow brown in lateral aspect and the venation is paler, the marginal vein slightly shorter. First two femora slightly blackish dorsad centrally. The propodeum has a rather deep, cylindrical median channel and segments 6 and 7 of abdomen dorsad are more distinctly scaly, the hind coxæ barely sculptured (densely punctulate in the preceding species). Hind tibial spurs double. Mandibles not seen. Segment 5 of abdomen occupying about a third of the surface.

From one female caught in jungle, June 25, 1914.

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 3249*, Queensland Museum, Brisbane, the female on a tag with type of *bicoloriventris*.

47. EURYTOMA MAETERLINCKI new species.

Female:—Length, 2.50 mm.

Runs close to *nigra* but the oral area of face is triangularly lemon yellow, the apex of the triangle reaching antennal insertion, the ventral half of the occipital margin of the eye is yellow, the proximal half of scape (including the bulla) is pale yellow and the apex of the pedicel; otherwise marked as in *nigra* except that all coxæ and femora are blackish, the venation black. Marginal vein thickened, distinctly longer than the stigmal. Distal four funicle joints wider than long, 1 somewhat longer than wide. Median carina of median channel of propodeum very distinct. Punctures of thorax all very flat. Mesopleurum about as described for *queenslandensis* but it is divided by a glabrous grooved line, its cephalic margin a carina. Petiole a half longer than wide. Segments 4 and 5 faintly sculptured dorsad. Cheeks black.

From two females reared from gall Nos. 10 and 16, from Queensland Museum collections, April 7, 1911 (H. Hacker).

Habitat: Brisbane, Queensland.

Type: No. *Hy 3250*, Queensland Museum, Brisbane, one specimen on a tag.

Dedicated to Maurice Maeterlinck.

48. EURYTOMA PUELLA new species.

Female:—Length, 2.50 mm.

The cephalic tibiæ are very lightly blackish dorsad at middle. Flagellum black. Pro- and mesopleurum punctulate. Runs to *acaciæ* Girault but differs in having the scape yellowish brown. Mesopleura glabrous dorso-caudad. Cephalic tibiæ yellowish brown, also the knees, tip of middle tibiæ and distal half of caudal tibiæ. The spot on cephalic propleurum is very small. Segment 5 of abdomen not as long as 2-4 combined. Median channel of propodeum well defined its entire length; it consists of a single row of wider than long foveæ. Abdomen glabrous except segment 7. Cephalic fifth of scutum finely transversely lineolated.

From two females from the collections of the Queensland Museum, labelled "Among herbage, April 16, 1913. H. Hacker."

Habitat: Brisbane, Queensland.

Type: No. *Hy 3251*, Queensland Museum, Brisbane, one female on a tag.

49. EURYTOMA LONGIPETIOLATA new species.

Female:—Length, 2.50 mm.

Runs to *rubriventris*. Scape (except at tip), legs except caudal coxæ and ventral half of segments 4 and 5 of abdomen, reddish brown. Wings hyaline, the marginal vein somewhat over twice the length of the stigmal, the latter subequal to postmarginal, the venation pale yellowish brown. Funicle 1 somewhat longer than wide, longest, a little less than half the length of the scape; funicle 5 subglobular. Abdominal petiole longer than usual, distinctly longer than the hind coxæ, about four times longer than wide. Segment 5 of abdomen dorsad occupying over half the surface. Tegulæ very dark. Petiole longitudinally striate, with a spine dorsad at base. Abdomen glabrous except distad of segment 6. Propleurum scaly. Mesopleurum punctulate. Propodeum rugoso-punctate, with a distinct median channel with carinated lateral margin and interiorly consisting of wider than long foveæ, the proximal with indications of longitudinal divisions. Head and thorax uniformly umbilicately punctate. Pedicel wider than long by a little.

From two females from the Queensland Museum collections, Brisbane, caught on flowers of *Bæckea*, April 22, 1913 (H. Hacker).

Habitat: Brisbane, Queensland.

Type: No. *Hy 3252*, Queensland Museum, Brisbane, the two specimens on a tag.

50. EURYTOMA MORDAX new species.

Female:—Length, 3.25 mm.

Like *quinquenotata* but the ocellar area is black (transverse black line) and continued caudad at each end down to the occiput, thus the whole forming an inverted U. The venation is black, the marginal vein longer, plainly twice the length of the stigmal, the latter short, subequal to the postmarginal; the short petiole is black and the abdomen has a median black stripe from base to distal three fourths (to apex of segment 5), the stripe narrowing rapidly from base (never broad) forming nodes at apex of segments 3 and 4, very narrow on segment 5; thus the abdomen has no isolated black areas along the meson. Fore wings very obscurely stained. No obscure spots on pronotum. Otherwise similar to *quinquenotata* (except that the pedicel is black only at base above and funicle 2-5 are longer, only a little shorter than 1, 5 shortest) with which it has been compared (types). Differs from *Eurytoma xantherella* in bearing a distinctly shorter petiole, shorter postmarginal vein and longer median stripe on abdomen. Hind tibial spurs double. Funicle 1 three fourths the length of the scape.*

From one female caught May 4, 1914 in jungle (A. P. Dodd).

Habitat: Tweed Heads (Tweed River), New South Wales.

Type: No. *Hy 3253*, Queensland Museum, Brisbane, the specimen on a tag; antenna and a hind leg on a slide with type *quinquenotata*.

In this species segment 5 of abdomen is shorter being more distinctly deeper than long.

51. EURYTOMA SPES new species.

Female:—Length, 3 mm.

Runs to *sarcophaga* and *nigripes* but differs from both in having the scape black along distal two thirds (distal half if bulla is included); from *sarcophaga* in that the median basin of propodeum is not rugulose but punctulate and at immediate base of propodeum there is a pair of rounded foveæ separated from each other by a narrow carina; directly laterad of each of these is a smaller fovea, less rounded. Also the cephalic half of the mesopleurum is punctulate, the caudal half subfoveate and with a glabrous area just dorsad of middle. From *nigripes* also in having the basin of propodeum punctulate. Venation black. Tegulæ and cephalic tibiæ dark brown. Cephalic halves of segments 4-6 laterad of abdomen sculptured

* Excluding the bulla as always.

as in *sculptura,* 7 very finely scaly, pubescent; tips of valves of ovipositor reddish brown; dorsad, segment 6 is nearly entirely scaly like its sides but 5 is so only at cephalic fourth. Propleurum scaly ventro-laterad. Funicle 1 about half the length of the scape. Wings hyaline. Otherwise about as in *nigripes.*

From one female caught November 19, 1913 (H. Hacker).

Habitat: Brisbane, Queensland.

Type: No. *Hy 3254,* Queensland Museum, Brisbane, the specimen on a tag; antenna on a slide with slide type of *picus* Girault.

52. EURYTOMA MULTIPUNCTUM new species.

Like *nympha* but the distal margin of scutellum, three dots in a transverse line across caudal margin of scutum, one at the meson (the other two, one each at caudo-mesal angle of axilla), a dot at meson of caudal margin of pronotum and one on each side of meson, dorsal half of face of pronotum, reddish black; upper occiput centrally black. Funicle 1 darker but not as dark as the pedicel, the tegulæ very dark red. Mesopleurum longitudinally rugulose.

From one female caught in jungle, June 25, 1914.

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 3255,* Queensland Museum, Brisbane, the specimen on a tag with type *nympha.*

53. EURYTOMA HAWTHORNEI new species.

Female:—Length, 2.70 mm. Robust.

Runs in my table to *epicephalæ* from the description of which it differs as follows: More robust; all of scape except at tip above and the first two pairs of coxæ are reddish brown; also the tegulæ; the marginal vein is nearly twice the length of the stigmal, the postmarginal barely longer than the stigmal; funicle 1 is hardly a third the length of the scape but distinctly longer than 5 which is subquadrate, hardly shorter than joints 2-4; abdomen wholly black. Median channel of propodeum obclavate, its sides carinated and the channel with a median carina from base nearly to apex. Mesopleurum finely, transversely striate except dorso-caudad. Petiole of abdomen twice longer than wide, nearly as long as the hind coxæ, finely longitudinally striate. Segment 5 of abdomen occupying about half the surface, twice the length of 4. Noticeable grayish pubescence on face, cheeks, dorsal thorax and hind coxæ. Hind tibial spurs double. Venation fuscous.

From one female caught in forest, September 30, 1914.

Habitat: Capeville (Pentland), Queensland.

Type: No. *Hy 3256,* Queensland Museum, Brisbane, the female in alcohol with type *Atoposoma unguttatipes.*

Dedicated to Nathaniel Hawthorne.

54. EURYTOMA BREVIPETIOLATA new species.

Female:—Length, about 1 mm.

In my table of species, ignoring the head, runs to *abnormiclava* from which it differs in being smaller, the abdomen (except the short petiole, segments 2-4 dorsad and laterad, segment 5 dorsad at proximal third and the apex distad of segment 6), legs (except hind coxæ and sides slightly of cephalic ones) and the very short scape except at tip above, yellow-brown. Runs in reality to *queenslandensis* and allies, the head bearing a linear spot of yellow on each side of meson of clypeus from mouth to base of antennæ and the propleurum with a roundish yellow spot cephalad centrally. Flagellum blackish, short and thick, the very small pedicel smaller than the funicle joints of which 1 is cupshaped, the following all plainly wider than long. Tegulæ yellowish brown. Venation black, the wings hyaline, the marginal vein a little thickened, somewhat over twice longer than wide, distinctly somewhat longer than the

stigmal, the latter slightly shorter than the postmarginal. Segment 5 of abdomen occupying not quite half the surface, much longer than 4. Propodeum with a median channel. Mesopleurum very finely sculptured.

From one female caught in forest, September 30, 1914.

Habitat: Capeville (Pentland), Queensland.

Type: No. *Hy 3257*, Queensland Museum, Brisbane, the specimen in alcohol with type of *E. hawthornei* Girault.

55. EURYTOMA SOROR new species.

Like *queenslandensis* but the abdomen black above at base only on segments 2 and 3, the venation is very pale yellow, the antennæ are yellow except scape at tip above, pedicel and first two or three funicle joints; the hind coxæ are all yellow-brown like the legs; axillæ black; lower half of occiput yellow. Funicle 1 a little wider than long, the following joints still shorter. Otherwise apparently the same. Marginal vein about twice longer than wide. Hind tibial spurs double.

From one female caught in forest, September 27, 1914.

Habitat: Capeville (Pentland), Queensland.

Type: No. *Hy 3258*, Queensland Museum, Brisbane, the specimen in alcohol with type of preceding.

My genus *Bephratella* was founded on the length of the first funicle joint in relation to the scape (two thirds or more the length of the scape), a character used in Ashmead's table but I found later that the joint in question varies very much and is not a true generic differential. The original description of *pyrrhocerus* Crawford was inadvertently omitted but the place of the species is indicated in the table of species. The species *clelandi* Cameron should more properly be referred to *Xanthosoma* Ashmead but perhaps this is not a valid genus being founded on rather variable sculptural peculiarities. This genus is really an enormous one.

TABLE TO THE AUSTRALIAN SPECIES OF *EURYTOMA* ILLIGER.

Females.

All the species described by me have a 2-jointed club, except *picus* which has three distinct apparent joints and *abnormiclava* which has a solid club. Most of my types have been re-examined.

I. Yellowish species. Funicle 1 long (except *xantherella*), the marginal vein black and thickened. Uniformly punctate on dorsal thorax.

Yellow; abdominal petiole, base of abdomen dorsad along meson for a short distance (proximal third) and tip of ovipositor valves dark fuscous; venation black, the marginal vein nearly twice the length of the stigmal. Propodeum with a median channel. Petiole of abdomen over twice longer than wide. The median stripe of abdomen forms two rather large triangular areas like nodes. Funicle 1 not quite half the length of the scape .. .. *xantherella* Girault.

Yellow orange; dorsum of abdomen with four conspicuous cross-stripes of black, the fourth bow-shaped and caudad of it a very short transverse black dash; ocellar area black. Propodeum concave, at base with a short groove. Pedicel black dorsad. Funicle 1 two thirds the length of the scape (excluding bulla). Abdomen dorsad not concave (lateral aspect) .. .. *nympha* Girault; see *multipunctum* Girault.

The same but the centre of vertex, upper occiput, median line of pronotum mesad, somewhat over cephalic third of scutum except lateral margins, the meso-caudal and meso-cephalic corners of each parapside, the axillæ, caudal and cephalic margins of scutellum rather broadly and the meson of propodeum broadly black. Otherwise as in *nympha*. The scutum with an inverted triangular spot at apex mesad connecting narrowly along meson with the black cephalad .. .. *pulchra* Girault.

The same but propodeum and parapsides wholly yellow, the axillæ only partly black and the scutellum is yellow and bears an obscure dark spot on each side of meson cephalad, the caudal and cephalic margins of scutellum more narrowly black. Pronotum with centre of face and a spot on meson of caudal margin black, rest yellow .. .. *speciosa* Girault.

Like *pulchra* but the dorsal thorax all black except lateral margins of scutum and scutellum, base of scutellum and two narrow oblique yellow streaks on pronotum, one on each side; lateral margin of parapside also yellow and the propodeum. Abdomen with six cross-stripes. Funicle 2 abruptly the shortest. Fourth stripe of abdomen curved but broader. The abdomen is long in proportion to its depth .. .. *silvæ* Girault.

Reddish yellow, the propleura, abdomen, legs and head yellowish brown; occiput just above centre, pedicel, ocellar area and four short, broad marks on abdomen, the fourth a round spot, black; median line of abdomen from base to first mark also black. Pronotum with a cross-row of three obscure dusky spots, the smallest at the meson. Venation pale. Otherwise about as in *pulchra* but the propodeum with a more distinct median channel .. .. *quinquenotata* Girault.

The same but the black ocellar area from each end is continued caudad and ventrad onto the occiput, the venation is black, the marginal vein longer and the meson of abdomen is black from base to the apex of segment 5, the stripe narrowing rapidly. Pronotum without spots. Abdominal petiole not twice longer than wide. Funicle 1 three fourths the length of scape .. .. *mordax* Girault; see *nigrinotata* Girault, *silvensis* Girault. See *Eurytomocharis virginica* Girault.

II. Black species, the body marked with more or less yellow or reddish, the abdomen wholly black. Venation usually normal.

Stigmal vein with an enlarged black knob, as in the Megastigminæ.

Black; cephalic angle of pronotum (lateral aspect) with a yellowish spot; antenna and legs brownish yellow except tip of scape, base of pedicel, caudal coxæ and hind femora centrally. Segment 5 of abdomen occupying half the surface. Marginal vein thickened .. .. *eucalypti* Ashmead.

Stigmal vein normal.

Pronotum with an oblong oval yellow spot on cephalic angle (dorsal aspect); scape, apex of pedicel and legs except coxæ and a broad blotch on middle of hind femur, yellowish brown. Venation brown. Funicle joints a little longer than wide .. .. *binotata* Ashmead.

Distal half of propodeum, oral region (sometimes broadly), trochanters, knees, tibiæ and tarsi, rufo-testaceous; flagellum without a distinct club, the pedicel twice longer than wide .. .. *brachyscelidis* Cameron.

A longish conical mark on each side of clypeus, legs (except coxæ and hind femur) and flagellum pale yellow; pronotum sparsely punctate; cephalic third of scutum finely transversely lined, the rest strongly aciculated, sparsely punctate .. .. .. *tasmanica* Cameron.

A small pale yellow area on cephalic margin centrally of propleurum; distal funicle joint and the club brown; knees, tibiæ and tarsi dark brown, the caudal tibiæ black centrally. Funicle 1 a third longer than wide. Postmarginal and stigmal veins subequal .. .. *acaciæ* Girault; see *secunda* Girault, *puella* Girault.

Legs all reddish brown except hind coxa. Scape reddish brown and the tegula; flagellum brownish yellow; propodeum with a rather deep median groove; venation pale; funicle 1 much longer than wide, about half the length of the scape, much longer than 5. Club apparently 3-jointed. Cephalic margin of propleurum centrally pale yellow. Abdominal petiole as long as the caudal coxæ .. .. *picus* Girault.

III. Black species, unmarked (excluding appendages).

Wings distinctly smoky black except at base. Abdomen distinctly longer than deep.

Knees, most of cephalic tibiæ and all tarsi reddish brown; funicle joints cylindrical oval, 1 distinctly longer than the others which are subequal. Propodeum at base mesad with a deep fovea. Marginal vein a little longer than postmarginal, the latter and the stigmal moderately long. Dorsal abdomen glabrous except distad of segment 5 *fuscipennis* Girault.

Wings hyaline or only slightly stained.

Legs all reddish or yellowish except all coxæ. Postmarginal vein a little longer than the stigmal. Thorax uniformly umbilicately punctate. Petiole of abdomen twice longer than wide, the abdomen glabrous.

Antennæ except pedicel above and the club reddish brown; tibiæ and tarsi pale yellow; marginal vein only slightly longer than the stigmal; funicles 1-3 subelongate. Propodeum with a median channel, coarsely punctate .. .. *dumasi* Girault; see *epicephalæ* Girault, *hawthornei* Girault.

Tibiæ yellowish brown or reddish brown.

Antennæ fulvous except club and pedicel; funicle 1 nearly twice the length of the pedicel, the others shorter; propodeum with a median channel, its sides carinated; marginal vein subequal to postmarginal; cephalic femur yellowish on one side. Segment 4 of abdomen slightly longer than 3 .. .. *pyrrhocerus* Crawford.

Antennæ distad of funicle 1 reddish brown, scape reddish brown; distal half of tibiæ whitish; scutum uniformly punctate. Propodeum with an ovate median channel. Funicle 1 a little over half the length of the scape, reddish at tip, over twice the length of the pedicel. Segment 5 nearly twice the length of 4; petiole a little longer than wide .. .. *semifuscicornis* Girault.

Antennæ black except scape .. .. *mazzinii* Girault.

Cephalic tibia alone reddish brown. Abdominal petiole wider than long. Marginal vein a little longer than the stigmal. Funicle 5 quadrate, subequal in length to the pedicel.

Caudal tibiæ with a broad central black band; funicle 1 about half the length of the scape. Segments 2-6 of abdomen glabrous. Scape reddish brown. Thorax dorsad uniformly punctate .. .. *sarcophaga* Girault.

Scape black .. .. Compare *aretheas* Walker, *eleuther* Walker, and *spes* Girault.

The same but marginal vein a little longer; funicle 5 somewhat longer than wide.

Scape pale, yellow or reddish. Fore wing a little stained under marginal vein.

Cephalic femur reddish brown; marginal vein fully four times longer than wide, a third longer than the stigmal; propodeum concave. Funicle 1 about two thirds the length of the scape (excluding the bulla). Scape black at tip. Segment 6 of abdomen sculptured .. .. *nigripes* Girault.

Similar to *sarcophaga* and *nigripes* but segments 4 and 5 of abdomen short, subequal, 4 a little longer and the sides of segments 3-5 are more uniformly reticulated .. *sculptura* Girault.

Legs all black except articulations and tarsi.

Scape pale .. .. Compare *tellis* Walker.

Scape black.

Tibiæ only with a subfuscous central blotch laterad; funicle submoniliform. Segment 5 of abdomen as long as 2-4 united .. .. .. *australiensis* Ashmead.

About the same; segments of abdomen subequal .. .. .. *pidytes* Walker.

IV. Black species, the abdomen partly or mostly reddish or yellowish, the body sometimes marked (species with abdomen a little yellowish ventrad at base, excluded).

Head and thorax wholly black.

Legs wholly yellowish or only very slightly infuscated on the femora alone or the tibiæ.

Femora and tibiæ practically all yellow or reddish.

Abdomen all brown except extreme tip and dorsal meson at proximal third; antennæ dusky brown, funicles 1-3 cylindrical oval, about half the length of the scape, the latter lemon yellow; abdomen long, segment 5 occupying half the surface; petiole nearly twice longer than wide, black; venation pale, the marginal vein nearly twice the length of the stigmal. Propodeum with a deep median channel with carinated margins; propodeum rugoso-punctate; caudal coxa scaly above .. .. *nelsonia* Girault.

Abdomen all black except segment 5 which is dark reddish, black at proximal third dorsad; marginal vein about twice longer than wide, the venation pale; funicles 4 and 5 wider than long. Segment 5 of abdomen plainly longest. Ventral part of segments 2-4 of abdomen red; petiole wider than long. Propodeum with the mesal aspect a shallow basin densely punctate, the rest rugoso-punctate .. *flavitegula* Girault.

Abdomen black except segment 5 (which is black along dorsal meson) and sides of 6 which are bright honey yellow; scape lemon yellow except at tip above; petiole of abdomen thrice longer than wide; marginal vein nearly twice the length of the stigmal; funicle 1 a little over half the length of the scape, somewhat longer than wide. Mesopleurum with a glabrous area just ventro-caudad of tegula, cephalad of this a few fine punctures, ventrad of the latter weak longitudinal aciculations .. .. *carlylei* Girault.

The same but yellow of abdomen dark yellow and only at ventral half of side. Petiole of abdomen only a little longer than wide, the dorsum not greatly convexed. Funicle 1 oval, less than half the length of the scape. Postmarginal vein barely longer than the stigmal. Propodeum with a distinct median channel, carinated cephalad along margins; thoracic punctures shallower. Marginal vein shorter .. *inconspicua* Girault.

Femora and tibiæ plainly marked with black. Propodeum with a distinct median channel; abdominal petiole twice longer than wide; scape and segment 5 of abdomen laterad yellow-brown .. .. *gregi* Girault.

Legs yellow or reddish but all coxæ black.

Abdomen reddish except at proximal third dorsad, the scape brownish at extreme base; petiole of abdomen black .. *lincolni* Girault, *dubiella* Girault, *cressoni* Girault.

Abdomen with segments 5 and 6 blood red (except meso-cephalo-dorsad on segment 5); legs reddish brown, the scape suffused with yellow; funicle 1 over half longer than wide. Scutum uniformly punctate. Segments 3-5 of abdomen covered with very fine pin-punctures dorsad and laterad. Petiole very short. Pro- and mesopleurum delicately punctate; caudal half of mesopleurum with weak longitudinal ridges .. .. *rubriventris* Girault and Dodd; see *longipetiolata* Girault.

Legs yellow but coxæ, femora and nearly all tibiæ black.

Tegulæ, knees, tips of tibiæ (most of cephalic tibiæ) and segments 2-5 of abdomen yellowish brown. Marginal vein twice the length of the stigmal; funicle joints oval. Mandibles tridentate. Propodeum with an ovate median channel .. .. .. *bicoloriventris* Girault; see *tricoloripes* Girault.

Head and thorax marked distinctly with yellow.

Head marked with yellow.

Oral region, ventral aspect of scape, lower half of upper inner orbits, malar space and propleura, rufo-testaceous; legs yellow except caudal femora which are black, other femora slightly blackish; marginal vein distinctly longer than the postmarginal; funicle 1 twice longer than wide. Venter and ventral half of sides of abdomen testaceous; scutellum with a median aciculated line .. .. (*Xanthosoma*) *clelandi* Cameron.

Abdomen reddish except above at proximal third (segments (2-4); face, cheeks and propleurum lemon yellow, also occiput except dorsad; legs yellowish brown, the caudal coxa black laterad except at tip and the abdominal petiole; scape lemon yellow, black at tip; funicle 1 a half longer than broad. Petiole a little longer than wide. Prepectus glabrous; mesopleurum cephalad punctate (the greater part), caudad longitudinally striate. Median channel of propodeum with carinated sides and a distinct median ruga. Propodeum coarsely punctate .. .. *queenslandensis* Girault; see *soror* and *brevipetiolata* Girault.

The same but caudal coxa yellow .. .. *patruelis* Girault.

The same but the yellow of propleurum advances on to the notum; two orange yellow dots mesad on upper occiput and a dot on each side of propodeum between meson and lateral margin .. .. .. *quadriguttatus* Girault; see *rostandi* Girault.

Face beneath antennæ and cephalic margin of propleurum triangularly, lemon yellow; ventum and middle of side of abdomen yellowish brown; caudal coxæ and scape black. Prepectus finely scaly. Mesopleurum about as in *queenslandensis*, also propodeum and other characters .. .. *nigrella* Girault, *maeterlincki* Girault.

Head all black.

Club solid. Abdomen mostly red, also the legs and scape .. *abnormiclava* Girault.

Genus CHROMEURYTOMA Cameron.

"Antennæ short, clavate, apparently* 13-jointed, placed over the mouth, the last joints forming a club. Apex of clypeus rounded. Face roundly convex, clearly separated laterally, below separated from the clypeus by a furrow. Head distinctly wider than the thorax. Eyes large, widely separated above, not converging. Temples short. Prothorax large, quadrate, as long as the mesothorax, which has distinct furrows; these are straight and converge toward the apex. Scutellum large, longer than it is wide at apex; that is broadly rounded and margined. Postscutellum large, narrowed gradually behind. Metanotum short, little developed, the centre depressed narrowly, the sides broadly rounded, the slope oblique. There is an oblique furrow across the mesopleuræ. Abdomen shorter than thorax, longish oval, distinctly narrowed at base and apex, not petiolated. Marginal nervure long, the postmarginal longer than it; stigmal fully one-half the length of the marginal. Legs stout, pilose. Body metallic-green; its sculpture fine.

I can refer this genus only to the Eurytominæ, but it is certainly not typical of that group. The marginal nervure, for example, is much longer, the sculpture much finer, and the antennæ shorter and more clavate. I cannot place it in any other group. The metallic color is not unique for the Eurytominæ, for it is found in *Chryseida*. In habits, the type of the genus agrees with most Eurytominæ, the species of the tribe being mostly parasitic on gall-insects. Probably the discovery of the male may throw light on the systematic position."

* This is a word which should be used as little as possible in such connections as this; it is obscure where it should be clear.

1. CHROMEURYTOMA CLAVICORNIS Cameron. Female. Genotype.

Length, 4.5 mm.

"Dark green, largely tinted with blue, and to a less extent, with violaceous; antennæ and legs, except the coxæ, rufo-testaceous; mandibles and palpi testaceous; wings hyaline, nervures pale testaceous.

Vertex below the ocelli finely, closely striated; apex of pronotum, mesonotum and scutellum finely, closely striated, the striation stronger on the scutellum, weaker on the base of mesonotum; postscutellum microscopically striated, the parts bordering it fiery-red. Metanotum smooth. Metapleuræ fiery-red. Abdomen smooth. Apex of pronotum narrowly fiery-red. There is a wide curved furrow on the malar space. Ventral surface of the abdomen largely violaceous.

I am not sure but that the deep rufous tint of the legs may be caused by discoloration through the action of cyanide of potassium."

This is probably one of the gall-inhabiting Perilampidæ.

GENUS XANTHEURYTOMA Cameron.

"Submarginal vein twice the length of the marginal, thickened toward apex, marginal thickened, postmarginal not one half the length of marginal, not longer than stigmal, which is triangularly thickened at base, at its junction with the marginal, the lower part of it narrowed, roundly curved. Antennæ 11-jointed, short, thick, joints of flagellum wider than thick, not distinctly separated, at the most only pilose; the scape narrower than flagellum and does not extend much above the middle of the eyes; there is no clear club to the antennæ; the front is not much depressed.

Ocelli almost in a straight line, the central very little in front of the lateral. Parapsidal furrows clearly defined, rounded, meeting very shortly before base of scutellum. Scutellum large, longish-pyriform, the broad end at the apex; almost as long as the mesonotum. Metanotum short, steeply oblique; the centre with a keel on one side, the two parallel, not converging. Thorax not punctured, only very finely striated above. Abdomen sessile, distinctly shorter than thorax; its second segment much longer than the others; its apex bluntly rounded, broad; fifth segment shorter than fourth.

Comes near to *Xanthosoma* Ashmead which may be known from it by the fifth abdominal segment in the female being nearly twice as long as the fourth, by the abdomen being longer than the thorax, and by the marginal vein being one and a half times, not twice longer than the stigmal. The parapsidal furrows are deeper, more clearly defined and more roundly curved than in *Eurytoma;* the scutellum is larger and much more narrowed at base than in that genus."

1. XANTHEURYTOMA FLAVA Cameron. Male. Genotype.

Length, 2 mm.

"Yellow; back of thorax deeper, more fulvous in tint; centre of the whole of basal slope of pronotum and the thoracic sutures more or less black, flagellum of antennæ tinged with fulvous, legs a paler yellow than the body; wings hyaline, nervures testaceous, the dilated parts darker colored; stigmal vein triangularly dilated at base, the apical part a little longer than it, roundly curved. The metanotum and back of abdomen may be infuscated.

Occiput transverse, infuscated, more or less obscurely striated. Hinder ocelli separated from each other by twice the distance they are from the eyes. Mesonotum and scutellum finely, closely, transversely striated. Parapsidal furrows distinct, roundly curved toward each other at apex, where they unite and are joined to the scutellar furrow by a short one. Scutellum large, ovate, twice longer than wide, obliquely narrowed to a point at the base, the apex broadly rounded.

Probably a variable species, as regards the amount of black."

Probably a Taneostigmine.

GENUS LISSEURYTOMA Cameron.

"Marginal vein thrice longer than the stigmal, postmarginal shorter than the latter, the stigmal branch as long as stigmal, its apex slightly thickened, oblique. Head and thorax not umbilicately punctate, smooth, parapsidal furrows distinct; scutellum large, narrowed toward base, the apex broadly rounded, margined by a keel. Abdomen with the basal segment sessile, longer than any of the others, the second to fifth of almost equal length. Metanotum flat, triangular, its sides stoutly keeled, the middle with two fine keels. Eyes ovate, the lower side more sharply pointed than the upper; malar space two thirds of their length. Antennæ 12-jointed, stout, third joint conical, longer than wide, fourth and fifth as wide as long, the others wider than long. Legs stout, hinder tibiæ with one spur.

The thorax is longer than usual, but not the pronotum; it is fully one-half longer than the abdomen; the flattened, only slightly sloped metanotum adds to its length. The head is transverse behind; the temples are very slightly developed. The ocelli are in a wide triangle, in almost a curve.

A distinct genus. The single spur on the hind tibiæ separates it from all the other described genera, except *Phylloxeroxenus,* but that has the thorax umbilicately punctate. The pronotum is not quite so largely developed as it is in *Eurytoma,* and is more distinctly narrowed at the base."

1. LISSEURYTOMA VIOLACEITINCTA Cameron. Male. Genotype.

Length, 4 mm.

"Black, abdomen distinctly violaceous, base and apex of tibiæ obscurely, and tarsi, testaceous; wings hyaline, nervures black, an obscure cloud, of transversely oval shape before the stigmal branch. Pro- and mesothorax opaque, pro- and mesonotum very closely, finely, transversely striated in front. Metanotum smooth shining.

The hair on the legs and metapleuræ is longer than elsewhere; that on the legs is long, white and sparse. Hind tibiæ flattened, broader than the others; metatarsus as long as second and third joints united, and a little shorter than the apical. The apex of the antennal scape does not reach much beyond the middle of front, nor do the antennal depressions.

Habitat: Gosford, New South Wales."

GENUS SYSTOLE Walker.

1. SYSTOLE KOEBELEI Ashmead. Female.

Length, 2.5 mm.

Robust, brownish yellow and sparsely pubescent; stemmaticum, occiput, pedicel of antennæ, except narrowly at apex, anterior margin of mesonotum and sutures dividing sclerites of thorax, black. Wings hyaline, pubescent, the veins brown, the subcostal vein interrupted by a white bulla at its junction with the marginal vein; marginal and postmarginal veins about equal, longer than the stigmal. Head viewed from above subglobose, with scrobes deep and extending nearly to front ocellus; pedicel obconical, twice and one half longer than thick at apex; flagellum clavate, first three joints very small, together shorter than the pedicel and very much narrower, moniliform, the joints beyond widening and wider than long. Thorax rugulose, except the black anterior portion of mesonotum which is smoother but with delicate transverse aciculations. Abdomen oval, finely coriaceous and sparsely pubescent, the segments after the second subequal in length.

Habitat: Australia.

Type: No. *4882,* United States National Museum, Washington, D.C., U.S.A.

2. SYSTOLE OPUS Girault. Female.

Length, 1.10 mm.

Black, the wings hyaline, the antennæ concolorous, also the coxæ and most of all femora the tibiæ and tarsi yellowish brown; third and fourth abdominal segments smooth, the next

segments scaly, the fifth (which is equal to the preceding) so only along proximal half; head and thorax scaly but there are large, shallow punctures scattered over the surface resembling pustules. Wings hyaline, the postmarginal vein slightly shorter than the others which are subequal. Antennæ 11-jointed, the 3-jointed club obliquely truncate from apex of first joint, the pedicel longer than the first funicle joint, all joints of the latter about cup-shaped and subequal; one ring-joint. Posterior tibiæ with two spurs. Parapisidal furrows complete.

Habitat: Cairns, Queensland.

Type: No. I. 1353, South Australian Museum, Adelaide.

Genus EURYSYSTOLE Girault.

Agreeing with *Systole* Walker but the abdominal segments not subequal, the fourth over thrice the length of the third, longer than wide, very long, occupying more than a half of the surface. The thorax is scaly and with scattered shallow punctures as in *Systole opus.* Posterior tibiæ with only one spur. Parapsidal furrows complete. The punctures on the thorax are rather numerous, shallow.

1. EURYSYSTOLE VULGARIS Girault. Female.

Length, 1.45 mm.

Black, the wings hyaline, the venation very pallid yellow, the postmarginal vein somewhat shorter than the stigmal; the antennæ pale yellow, the pedicel dusky; legs honey yellow. Eleven antennal joints, one ring-joint, the first funicle joint subequal to the pedicel, only slightly longer than wide, the others subequal to it or a little shorter; club 3-jointed, larger, obliquely truncate. Pronotum with a more or less obscure yellowish spot in the lateral aspect, cephalo-ventrad. Third and following abdominal segments more or less distinctly scaly. Cephalic ocellus not within the scrobicular cavity. Knees, tips of tibiæ and the tarsi white.

Habitat: Cairns, Queensland.

Type: No. *I. 1351,* South Australian Museum.

2. EURYSYSTOLE NIGER new species. Female.

Length, 1.40 mm.

Like *vulgaris* but the legs darker except knees, tips of tibiæ and the tarsi. Segment 5 of abdomen not quite thrice the length of segment 4. Scutum with transverse lineolations, the scutellum very finely scaly. Otherwise the same. Mandibles tridentate. Coxæ black. Hind tibiæ with one spur. Clypeus yellow. Legs yellowish brown. Marginal vein somewhat longer than the stigmal, the latter a little shorter than the postmarginal. Distal half of segment 5 of abdomen scaly dorsad. Meson of propodeum with two large areas along it bounded by carinæ.

Habitat: Capeville (Pentland), Queensland. Forest, January 8, 1913.

Type: No. *Hy 3260,* Queensland Museum, Brisbane, the female on a tag.

Genus XANTHOSOMA Ashmead.*

1. XANTHOSOMA JUSTITIA new species. Female.

Length, 1.10 mm. Club 2-jointed, the distal joint much the longest.

Black, the wings hyaline, the legs pale yellow except the coxæ and proximal parts of the femora (all of hind femur and base of hind tibia); antennæ dusky pale yellow, the scape and pedicel black, the first funicle joint longest, slightly longer than wide and slightly shorter than the pedicel, the distal or fifth funicle joint wider than long. The two posterior

* See remarks under *Eurytoma.*

tibial spurs slender, nearly colorless. Mandibles tridentate, the inner tooth shorter and rather broadly truncate. Thorax densely, finely scaly. Propodeum without a distinct median impression, scaly and finely rugulose, brown. Propleurum suffused with yellowish.

Habitat: Gordonvale (Cairns), Queensland. Reared from galls, December 12, 1912 (A. P. Dodd). Forest.

Type: No. *Hy 3261*, Queensland Museum, Brisbane.

2. XANTHOSOMA PULCHRICORPUS new species. Female.

Length, 2.20 mm.

Honey yellow, the dorsum of the abdomen with broad nearly confluent black stripes across it, the scutellum and propodeum black, also the area bounded by the ocelli and a large rounded spot at base of scutum centrally. Wings hyaline. Antennæ and legs honey-yellow. First funicle joint subequal to the pedicel which is fuscous; club only 2-jointed, apparently 3-jointed. Marginal vein stout; fifth segment of abdomen a half or less longer than the fourth. Propodeum with a distinct median channel with carinated sides. Hind tibiæ with two spurs. Margins of scutellum yellow, also segment 2 of abdomen, the latter glabrous. Funicles 2-5 wider than long.

Habitat: Magnetic Island, Townsville. Forest, January.

Type: No. *Hy 3262*, Queensland Museum, Brisbane, the female on a tag, a caudal tibia and portion of an antenna on a slide.

3. XANTHOSOMA HAECKELI new species. Female.

Length, 1.60 mm.

Black, the wings hyaline; legs and petiole straw yellow; abdomen at base above (most of segment 2), beneath and along sides at proximal half, sides and venter of thorax (except the last region), parapsides and axillæ (both the latter darker), reddish yellow. Thorax rather densely finely reticulately lined, the propodeum with a broad, scaly, longitudinal mesial path, not impressed, limited laterad by a distinct carina; rest with several irregular rugæ. Face and cheeks lemon yellow; antennæ black, the scape yellow, funicle joints all somewhat wider than long, except the first which is subquadrate, subequal to the pedicel. Second tooth of mandible broadly, concavely truncate, nearly forming two teeth. One spur of hind tibia much shorter. Antennæ 9-jointed, the club not truly divided in the usual place; one ring-joint. Propodeum sparsely rugulose. Fifth abdominal segment somewhat the longest. Postmarginal vein a little shorter than the stigmal which is a half shorter than the somewhat thickened marginal. Petiole somewhat longer than wide. Scutum and scutellum with a number of obscure pustule-like punctures.

Habitat: Gordonvale (Cairns), Queensland. Jungle, June 5, 1913 (A. P. Dodd).

Type: No. *Hy 3263*, Queensland Museum, Brisbane, the female on a tag and a slide bearing the head and a hind leg.

Genus AXANTHOSOMA Girault.

Like *Xanthosoma* Ashmead but the abdomen plainly twice the length of the head and thorax combined. Allied with *Aximogastra* Ashmead but abdominal segments less equal, the abdomen beyond the seventh segment produced into a thin setiform process as long as the head and thorax combined; segments 5 and 6 are about equal, long, each about twice the length of 4. Head and thorax not umbilicately punctate only finely transversely wrinkled. Stigmal and postmarginal veins unequal. Segment 6 of abdomen a little longer than segment 5. Hind tibiæ with two spurs. First funicle joint longer than the pedicel, only about two thirds the length of the scape; a few scattered thimble punctures on the propodeum. Antennæ 10-jointed.

1. AXANTHOSOMA NIGRA Girault. Female. Genotype.

Length, 4.78 mm.

Shining black, the wings hyaline, the head and thorax more or less opaque. Legs yellow-brown, the coxæ mostly, the posterior femora and their tibiæ below the knees, black; also the antennæ. Abdomen except at base above densely microscopically scaly, the thorax more roughly so. Propodeum rugose and with a large median, triangular excavation for its whole length. Distal funicle joint oval. Club 2-jointed, the distal or second suture really non-existent. Propodeum with a distinct median channel whose margins are not distinctly carinated. Abdomen subsessile.

Habitat: Kuranda (type) and Gordonvale, Queensland.

Type: No. *Hy 3264*, Queensland Museum, Brisbane, a female on a tag and a slide bearing the antennæ and legs.

2. AXANTHOSOMA IO new species. Female.

Length, 3.50 mm.

Like *nigra* but the legs black except knees, tips of tibiæ and the tarsi. Also shorter and more robust, the produced part of the abdomen *shorter* than the head and thorax combined. Abdomen a little reddish at sides near base. Sides of thorax uniformly scaly. Median channel of propodeum narrower.

Habitat: Magnetic Island (Townsville), Queensland. Forest, January.

Type: No. *Hy 3265*, Queensland Museum, Brisbane, the female on a tag and a slide bearing the head and hind legs.

EXANTHOSOMA new genus.

Female:—Like *Xanthosoma* Ashmead but the antennæ only 9-jointed, the club solid. Fifth abdominal segment much shorter than wide yet longest, twice longer than 4 which is much shorter than segment 2. Postmarginal vein a little longer than the stigmal. Propodeum with a narrow median channel. Hind tibiæ with two spurs.

1. EXANTHOSOMA FUNERALIS new species.

Female:—Length, 2.75 mm.

Black, the wings hyaline; trochanters, knees, distal third of cephalic femora, all tibiæ except the subfuscous middle and the tarsi, reddish brown. Scape yellowish brown, the antennæ otherwise black; ring-joint longer than wide, narrow, the first funicle joint somewhat less than half the length of the scape (excluding bulla), the distal funicle joint globular, about as long as the pedicel. Mandibles irregular. Thorax densely reticulated, the propodeum rugulose, the median channel a single line of foveæ and its margins carinated. Scutum and scutellum with scattered obscure punctures.

From one female captured by sweeping jungle along a forest streamlet, July 31, 1913.

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 3266*, Queensland Museum, Brisbane, the specimen on a tag; head and a hind leg on a slide.

The abdomen has segments 4, 5 and 6 at about cephalic half dorsad, scaly reticulate; the petiole is subobsolete. As seen from above the scutellum is just about as long as the propodeum.

Genus EURYTOMOCHARIS Ashmead.

1. EURYTOMOCHARIS VIRGINICA new species. Female.

Length, 2.80 mm.

Red, the wings slightly stained throughout. Ocellar area, occiput, segments 2-4 of abdomen at caudal margins, cephalic margin, median channel and apex of propodeum, petiole

of abdomen, cephalic margin of scutum, venter of meson and metathorax, black. Venation pale yellowish, the marginal and stigmal veins subequal, the postmarginal nearly as long as the stigmal. Propodeum coarsely punctate, with a median channel of a paired row of foveæ. Abdominal petiole somewhat longer than wide, the abdomen dorsad finely reticulated (except segment 2 and caudal halves of 3 and 4), the segments nearly as in *Eurytoma*. Hind tibial spurs double. Antennæ inserted about the middle of the face, 10-jointed, the club 2-jointed, the distal joint larger, one ring-joint; first funicle joint longest, a little less than half the length of the body of the scape, the fifth or last joint a little wider than long. Mandibles tridentate. Scape (except at tip above), pedicel (except above) and legs reddish yellow, the funicle and club dark brownish; knees, tips of tibiæ and four proximal tarsal joints pallid. Cephalic half or more of mesopleurum black, the region punctulate cephalad.

Habitat: Gordonvale (Cairns), Queensland. Forest, October 10, 1912.

Type: No. *Hy 3267*, Queensland Museum, Brisbane, the female on a tag and the head, caudal tibiæ and a fore wing on a slide.

The species is very close to *Eurytoma* and differs from the original description of that genus in having the fifth abdominal segment as viewed from the side distinctly higher than long.

Genus PHYLLOXEROXENUS Ashmead.

1. PHYLLOXEROXENUS FUSCIPENNIS Girault. Male.

Length, 3.75 mm.

Reddish yellow, the antennæ, the legs (including coxæ) and the face honey yellow; propodeum, the abdomen with its long petiole, cephalic margin of mesonotum, the center of the occiput, dorsad and the area containing the ocelli black, the marginal vein fuscous; submarginal vein mostly pallid. Fore wing smoky out to beyond the end of the stigmal vein from base, the area accented under the marginal vein and interrupted by several longitudinal false veins. Umbilicately punctate. Mesopleurum more or less black. Marginal vein thickened, nearly twice the length of either the stigmal or postmarginal, which are short and subequal. Antennæ 10-jointed, one large ring-joint, the joints following long and cylindrical, subpedunculate, the distal funicle joint only about two thirds the length of the proximal, shortest of the funicle, shorter than the club joint. Posterior tibia with one spur.

Habitat: Cairns, Queensland.

Type: No. *I. 1260*, South Australian Museum, Adelaide.

Genus PHYLLOXEROXENOIDES Girault.

Differing from *Phylloxeroxenus* Ashmead, in having the funicle joints of the antennæ transverse after the first; antennæ 11-jointed. Posterior tibiæ with one spur.

1. PHYLLOXEROXENOIDES NIGER Girault. Female. Genotype.

Length, 2.50 mm.

Black, the abdomen shining, the wings hyaline, the postmarginal and stigmal veins nearly equal; pronotum with a yellowish spot on each side, cephalad; venation pallid. Abdominal petiole short but distinct. Legs, except the coxæ proximad, and the scape, except toward the tip, reddish brown, the flagellum reddish brown distad of the third funicle joint, clavate; first funicle joint subquadrate, not quite as long as the pedicel; other funicle joints subequal in length but widening. Club ovate, wider than the funicle, its first joint over twice wider than long. Posterior femur nearly all black.

Habitat: Mount Tambourine, Queensland.

Type: No. *I. 1263*, South Australian Museum, Adelaide.

Genus BRUCHOPHAGUS Ashmead.

1. BRUCHOPHAGUS NIGER Girault. Female.

Length, 2.85 mm.

Black, the wings hyaline, the venation pallid; abdomen smooth and shining, the fourth and fifth segments longest, the fifth somewhat longer than the fourth, either much longer than any of the others, the sixth transverse. Antennæ 11-jointed, the club enlarged, black, the scape fulvous, the first funicle joint twice the length of the pedicel and longest, the funicle joints bevelled off at each end along one side. Knees, tips of tibiæ and tarsi pallid yellow.

Habitat: Mount Tambourine, Queensland.

Type: No. *I. 1261*, South Australian Museum, Adelaide.

2. BRUCHOPHAGUS INCONSPICUUS new species.

Female:—Length, 2 mm. Stigmal vein slightly shorter than the marginal, the latter subequal to the postmarginal.

Black, the knees, tips of tibiæ and tarsi white; base of scape reddish brown; wings hyaline, the venation pallid; club suffused with yellowish. Maxillary palpi blackish, its distal, fourth joint pallid, nearly as long as the others combined. Mandibles tridentate. Funicle moniliform, the first joint slightly longer than wide, the others subequal, rounded, subequal in length to the pedicel. Club 2-jointed, the distal joint much the longest. Hind tibial spurs double. Umbilicately punctate, the propodeum rugose, with a distinct median channel (rather shallow) with carinated margins and an irregular median longitudinal ruga down it; on each side of the median channel the propodeum is scaly, especially centrally. Hind coxa coarsely scaly. Abdomen glabrous; from lateral aspect, distinctly longer than wide, segments 4 and 5 unequal, 5 somewhat longer but distinctly shorter than 2-4 united; cephalic margins of 4 and 5 with scaly reticulation, 6 (transverse-linear) and 7 (large) nearly entirely so (dorsad). Pubescence silvery, not conspicuous. Scape over twice the length of funicle 1.

From one female caught June 25, 1914 in forest.

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 3268*, Queensland Museum, Brisbane, the female on a tag.

Tribe DECATOMINI.

Genus EUDECATOMA Ashmead.

1. EUDECATOMA JUSTITIA new species. Male.

Length, 1.75 mm.

Reddish yellow, the legs and antennæ honey yellow, the antennæ paler. Propodeum, all of abdomen except segment 4 which is suffused with yellowish and the caudal coxæ and femora, black, the venation also black. Scutellum dark brown. Thorax impunctate, finely reticulated. Antennæ with long setæ, more or less whorled.

Habitat: Magnetic Island, Townsville. Forest, January.

Type: No. *Hy 3269*, Queensland Museum, Brisbane, the male on a tag.

2. EUDECATOMA FERALIS new species. Female.

Length, 1.10 mm.

Yellowish brown, impunctate, the marginal vein concealed by a stigmated spot; legs concolorous, the flagellum dusky black; mandibles tridentate; scape yellow-brown. Antennæ 11-jointed with one ring-joint, the club 3-jointed, the pedicel somewhat swollen, the first funicle joint longest, obconical, not as long as the pedicel, the others more or less quadrate. (Abdomen lost.)

Habitat: Meerawa (Cairns), Queensland. Jungle, July 26, 1913.

Type: No. *Hy 3270*, Queensland Museum, Brisbane, the female on a slide.

3. EUDECATOMA PAUCIPUNCTATA new species.

Female:—Length, 3 mm.

Honey yellow, the wings hyaline, the pronotum latero-cephalad yellow. Abdomen with about four cross-stripes, each slightly darker than the ground color, shaped as in *Eurytoma*. Thorax finely polygonally reticulated, the pronotum, caudal two thirds of scutum, scutellum except mesad and inner margin and lateral half of parapsides with thimble punctures, more numerous on scutum; cephalic third of scutum very finely transversely lined and caudad (just caudad of the punctures) with an ocellus-like pimple. Propodeum with a uniform median channel with cross-carinæ within; also a median carina which forks at base (cephalad), each arm running latero-caudad about half way to lateral margin, then abruptly changing angle, running caudo-mesad to caudal margin, thus inclosing a large peltate area through whose center runs the median channel. Propodeum rugulose. Abdomen glabrous, near apex with slight reticulation. Closest to *feralis* Girault but that species is impunctate and has a 3-jointed club; also in this new species funicle 1 is longer than the pedicel (the club plainly 2-jointed). Differs from *justitia* in color and also in having the evident punctures on the thorax, *justitia* having but very obscure ones on caudal scutum and its propodeum bears a broader median channel with less distinct cross-carinæ and there is no median carina (the channel's lateral margins are carinated and there is a longitudinal carina just laterad). Antennæ 10-jointed, the club 2-jointed, one ring-joint. Funicle 5 quadrate, 1 longest, less than half the length of the slender scape. Tibial spurs double (hind legs). Petiole twice longer than wide.

Described from one female taken from a window, February 4, 1914.

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 3271*, Queensland Museum, Brisbane, one female on a tag, the head and a hind leg on a slide.

4. EUDECATOMA DECATOMOIDES new species. Female.

Length, 2.20 mm.

This species differs from the preceding in being umbilicately punctate as in *Eurytoma*. The propodeum is foveate-punctate and with a median channel as in *paucipunctata* except that there is a paired row of wider than long foveæ within it. The carinæ in the meson are less obvious. There are two small eye-spots of yellow on base of abdomen dorsad. Abdomen glabrous, its petiole black, about twice longer than wide.

Honey yellow, the wings hyaline; face of pronotum slightly, an obscure round spot on scutum at meson of cephalic margin, apex of scutellum, median channel of propodeum, petiole and dorsal aspect of abdomen except just before tip, black. Marginal vein barely longer than wide, stigmated as normal for this tribe, the postmarginal no longer than the stigmal, both shorter than the marginal. Two spurs on caudal tibiæ. Club 2-jointed, the antennæ 10-jointed; distal club joint the longer, subequal to funicle 1. Pedicel much shorter than the funicle joints of which 2-5 are cylindrical oval and subequal, a third or less shorter than 1. Mandibles stout, tridentate.

Habitat: Harvey's Creek (Cairns), Queensland. Jungle, November 15, 1913 (A. P. Dodd).

Type: No. *Hy 3272*, Queensland Museum, Brisbane, the female on a tag; head and hind legs on a slide.

5. EUDECATOMA TRINOTATA new species.

Female:—Length, 2.60 mm.

The same as *circumnotata* but the whole mesothorax black, the occiput mostly black, also the cephalic femora and most of propodeum while on the pronotum there are three roundish black spots, one on each side in the dorso-lateral aspect centrally, the other mesal at

cephalic margin and quadrate (yet obscurely connected or barely separated from an opposite transverse spot at caudal margin). Otherwise quite the same.

From two females caught by sweeping jungle growth along the Mulgrave River, April 12, 1914.

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 3273*, Queensland Museum, Brisbane, two specimens on a tag, the antenna and hind tibia on a slide.

6. EUDECATOMA RUFIPRONOTUM new species.

Female:—Length, 2.67 mm.

The same as *trinotata* but the pronotum wholly reddish, also the latero-caudal part of each parapside, the latero-distal margins of scutellum narrowly and the propodeum rather narrowly along each side of the median channel. The hind coxæ are also reddish above as in *circumnotata*.

Form one female captured with the preceding.

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 3274*, Queensland Museum, Brisbane, the specimen on a tag with the preceding; antennæ and fore wing with type slide of *trinotata*.

7. EUDECATOMA CIRCUMNOTATA new species.

Female:—Length, 2.75 mm.

Reddish brown, the head, legs and abdomen yellowish brown, the antennæ yellow. Vertex centrally and upper occiput, dorsal pedicel, tip of club, cephalic margin of scutum, caudal margin of pronotum narrowly, an obscure spot center of scutum at caudal margin, meson and cephalic third of propodeum, caudal coxa laterad, middle and hind femora (cephalic femur near base), lateral axillæ, center of immediate base of abdomen (dorsad) and four stripes across abdomen, black. First two abdominal stripes semicircular and rather widely separated along the meson, the second larger, the third nearly straight, the fourth abbreviated (composed of two closely applied cross-stripes). Head and thorax umbilicately punctate. Venation reddish brown, the marginal vein a little longer than wide, the postmarginal vein absent, the stigmal longer than marginal, usual. Antennæ 9-jointed, the club solid. Propodeum with a median channel with acute margins. Submarginal vein white at apex. Funicle 1 not half the length of the scape, longer than the pedicel, somewhat longer than wide, subequal to the next three joints, 5 a little shorter. Ring-joint distinct. Hind tibiæ with two spurs. Antennæ inserted in the middle of the face.

From one female caught by sweeping jungle growth along the Mulgrave River, April 12, 1914.

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 3275*, Queensland Museum, Brisbane, the specimen on a tag; hind tibia, antenna and a fore wing on a slide.

In a second female, the second, curved abdominal stripe did not quite meet the first stripe laterad.

Genus CRATODECATOMA Cameron.

"Antennæ apparently 11-jointed, placed in the middle of the head, malar space two thirds of the length of the eyes; scape not reaching the ocelli; antennal depression shallow, not clearly defined, narrowed above. Ocelli in a curve. Occiput not margined. Pronotum moderately large, roundly narrowed from the apex to the base, the apex broadly rounded, margined. Metanotum triangular, with a rounded slope, the sides and center keeled and with three or four striæ on either side. Abdomen shorter than thorax, the back flat, with the

sides rounded; the first segment is the largest, not quite as long as the following three united, the fourth and fifth longer than the preceding two; the ovipositor short, broad, projecting upwards. Wings with a large cloud in front shortly beyond the middle; marginal vein twice the length of the postmarginal, which is not quite as long as the stigmal branch; the latter cleft at the apex; the lower division the larger, it is thicker and triangular. Legs stout, the hinder longer and thicker than the others; middle tibiæ with one spur, the hinder apparently without any. Pronotum and base of mesonotum finely punctured, the rest of the latter finely, closely transversely striated.

Hind tibiæ with some bristles behind, very indistinct and confused with hair. Antennæ thickened toward apex, pedicel narrowed toward base, twice longer than wide at apex; funicle 3 longer than wide, 4 and 5 as wide as long, the others wider than long. Number of joints in club uncertain, counted as two and no ring-joint; therefore antenna 11-jointed.

The pronotum is shorter and narrowed in front as compared with *Decatoma*, it also differs in the mesonotum and scutellum not being umbilicately punctate, in the marginal vein being longer and not thickened, and the abdomen sessile, not with a distinct peduncle as in *Decatoma*. When the male has been discovered, the species may be removed from the Decatomini, of which it has hardly the facies.''

1. CRATODECATOMA RUFICEPS Cameron. Female. Genotype.

Length, 5 mm.

''Black; head, apex of pronotum, almost the basal half of mesonotum, basal abdominal segment entirely and the sides of the second and third, red; antennal scape and the following two joints of a paler red; legs black, tarsi rufo-testaceous, their last joint black; wings hyaline, a large fuscous cloud at the middle, extending from the base of the marginal to the end of the postmarginal vein and enclosing the stigmal vein; narrowed at the costa, becoming roundly widened to apex, *i.e.*, posteriorly, which is roundly transverse and extends shortly beyond the middle. Head closely, finely punctured, occiput more finely punctured than the rest. Pronotum finely, closely, transversely punctured, mesonotum more strongly transversely striated, the center more strongly than the sides. Basal half of scutellum finely, closely striated, the striæ broadly rounded; the apical more strongly transversely striated, except extreme apex which is smooth. The raised broadly rounded, central part of the metanotum smooth, the basal lateral part aciculated. Propleuræ distinctly closely striated, the striæ roundly curved. Meso and metapleuræ smooth, or faintly aciculated, and shining. Basal half of abdomen smooth, the apical aciculated.

Pubscence short and very sparse, longer and denser on tibiæ. Ovipositor broad, obliquely directed upwards from the ventral to dorsal surface, its apex projecting shortly above the back.

Habitat: Gosford, New South Wales.''

This is certainly a most peculiar form for this family. It is most probably misplaced.

Tribe ISOSOMINI.

Genus ISOSOMA Walker.

1. ISOSOMA RAVOLA Walker. Male ; female.

Walker, 1839, pp. 4-5.

''Mas. *Atrum, antennae nigrae, frons flava, prothoracis latera antica flavo maculata, pedes nigro-picei, tarsi fulvi, alae limpidae.*

Atrum: capitis frons flava: oculi et ocelli rufi: antennae nigrae: prothoracis latera antica flavo maculata: pedes nigri; trochanteres picei; genua fulva; tibiæ piceæ, apice

fulvae; protarsi fulvi, apice fusci; protibiae fulvae, fusco semicinctae: alae limpidae; squamulæ piceæ; proalis nervi picei, metalis fusci. (Corp. long. lin. 4/5; alar. lin. 1½.)

Hobart Town, Van Diemen's Land.

Fem.—Corpus convexum, rude punctatum, obscurum, parae hirtum: caput transversum, breve, thorace vix latius; vertex latus; frons excavata, abrupte declivis: oculi mediocres, non extantes; ocelli vertice triangulum fingentes, medius perparum antepositus: antennae clavatae, 11-articulatae, pubescentes, corporis dimidio breviores; articulus 1us longifusiformis; 2us et 3us subrotundi; 4us longi-cyathiformis; 5us et sequentes transversi, discreti, usque ad 8um curtantes et latescentes; clava longiconica, articulo 8° plus duplo longior: thorax longi-ovatus: prothorax magnus, transversus, subquadratus: meso-thoracis scutum longitudine multo latius; parapsidum suturae optime determinatae; scutellum subrotundum: metathorax parvus, transversus: pedes validi, simplices, subaequales; tarsi breves: alae mediocres; nervus humeralis ulnari plus duplo longior, radialis ulnari brevior, cubitalis radiali vix brevior; stigma sat magnum.''

2. ISOSOMA ORITIAS Walker. Female.

Walker, 1839, p. 5.

''Fem. *Nigro-aeneum, antennae nigrae, prothoracis latera fulvo maculata, pedes fulvi, femora aenea, alae limpidae.*

Nigrae-aeneum: oculi et ocelli rufi: antennae nigrae; articuli 1us et 2us nigro-aenei: prothorax utrinque fulvo maculatus: pedes fulvi; coxae aeneae; femora aenea, apice fulva; tarsi flavi, apice fusci; metatibiae fusco cinctae: alae limpidae; squamulae piceae; nervi proalis fusci, metalis fulvi. (Corp. long. lin. 1½; alar. lin. 2½.)

March; King George's Sound, Australia.''

3. ISOSOMA VOLUX (Walker). Female; male.

Eurytoma volux Walker, 1839, p. 3.

''Fem. *Atra, antennae nigrae apice piceae, pedes nigri fulvo-cincti, alae limpidae.*

Atra: oculi et ocelli rufi: antennae nigrae, apice piceae: pedes nigri; trochanteres picei; genua fulva; tibiae apice fulvae; tarsi pallide fulvi, apice fusci; propedum tibiae fulvae, tarsi fusci: alae limpidae; squamulae piceae; nervi proalis picei, metalis fusci. (Corp. long. lin. 1⅓; alar. lin. 2.)

Hobart Town, Van Diemen's Land; and in March at King George's Sound, Australia.

Mas.—Corpus convexum, breve, punctatum, obscurum, parce hirtum: caput thorace paullo latius: antennae nodosae, verticillato-pilosae, thorace paullo longiores: petiolus longus: abdomen ovatum, compressum, nitens, laeve, fere glabrum, thorace multo brevius et angustius: alae latae.

Fem.—Caput thoracis latitudine: antennae clavatae, pilosae, thorace breviores: abdomen longiovatum, subcompressum, apice acuminatum, thorace non brevius.''

4. ISOSOMA OLBUS (Walker). Female.

Eurytoma olbus Walker, 1839, p. 4.

''Fem. *Atra, antennae, piceae basi fulvae, pedes fulvi, femora piceo cincta, alae limpidae.*

Atra: oculi et ocelli rufi: antennae piceae; articulus 1us fulvus: pedes fulvi; coxae piceae; femora piceo cincta; tarsi apice fusci: alae limpidae; squamulae fulvae; nervi fulvi. (Corp. long. 1; alar. lin. 1½.)

Sydney, New South Wales.''

5. ISOSOMA AUSTRALIENSIS Girault. Male.

Length, 2.85 mm.

Black, the antennæ and legs concolorous except most of cephalic legs, which are brownish and the knees, tips of tibiæ and the tarsi of the others; wings hyaline, the venation very pale, the stigmal and postmarginal veins about equal; scape very short; abdomen long and cylindrical, the third segment a little the longest, the whole surface of the abdomen with a very fine, scaly sculpture; propodeum with a median sulcus which has two longitudinal lines of foveæ down it, rugose, the mesothorax uniformly opaque, finely scaly. Antennæ 10-jointed with one ring-joint, the club 2-jointed, the first funicle joint longest, longer than the scape, the other four joints of the funicle each a little shorter than the one preceding; the whorls of long hairs white.

Habitat: Kuranda, Queensland. Jungle, December 18, 1912.

Type: No. *Hy 3276*, Queensland Museum, Brisbane, the male on a tag, the head on a slide.

6. ISOSOMA WORDSWORTHI new species.

Female:—Length, 2.60 mm.

Black, the wings hyaline, the knees, tips of tibiæ and tarsi brownish, also the scape, the flagellum black. Venation pallid, the postmarginal vein somewhat shorter than the stigmal, the latter very slightly shorter than the marginal. Hind tibial spurs unequal. Ring-joint longer than wide; funicle 1 not elongate, somewhat longer than wide, somewhat longer than the short pedicel; funicles 2 and 3 subequal, a little shorter than 1, 5 globular. Club solid, ovate, longer than the two preceding joints united. Propleurum with an oval lemon yellow spot cephalad. Segment 3 of abdomen transverse-linear, shortest, a third the length of 4; other segments subequal, all with a scaly sculpture except 2 and 3, this sculpture on the cephalic half of each segment. Thorax densely scaly, the propodeum subrugulose, without a distinct median channel or impression but one is indicated by a pair of separated, more or less obscure, median carinæ. A few shallow umbilicate punctures on axillæ and caudal scutum and also on scutellum. Parapsidal furrows ending laterad before the pronotum. Axillæ a little separated.

From one female caught by sweeping secondary forest growth, May 23, 1914.

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 3277*, Queensland Museum, Brisbane, the specimen on a tag.

Dedicated to William Wordsworth.

TRIBE RILEYINI.

NEORILEYELLA new genus.

Female:—Like *Neorileya* Ashmead but the parapsidal furrows complete, the axillæ large, nearly meeting inwardly, the marginal vein long, over one and a half times longer than the stigmal which is slightly longer than the postmarginal, the fore wings with a pattern. The abdomen is compressed, subsessile. Scutellum without a transverse suture but with at least more than the distal third differentiated. Otherwise the same. Hind tibia with two unequal spurs. Stigmal vein curved. Abdomen above more or less depressed.

1. NEORILEYELLA FASCIATA new species. Genotype.

Female:—Length, 2 mm.

Orange yellow, the proximal part of the scutellum lemon yellow; legs and antennæ concolorous. Fore wing with a narrow black stripe across it at the bend of the submarginal vein and distad with a large, conspicuous, rounded stigma-like spot from the base of the stigmal vein and reaching nearly across the blade. Distal half of abdomen black, the antennal

club contrasting with the funicle being pinkish. Axillæ smoother, with longitudinal striæ, the distal part of the scutellum with transverse, semicircular striæ. Thorax, besides the umbilicate punctures, more or less rugose. All funicle joints shorter than the pedicel. Propodeum with a complete lateral carina and an inverted V-shaped one at meson but not quite complete caudad.

Described from two females captured by sweeping in a jungle pocket, May 15, 1913 and May 26, 1913.

Habitat: Gordonvale (Cairns), Queensland.

Types: No. *Hy 3278*, Queensland Museum, Brisbane, the above specimens on tags, the heads in xylol-balsam.

2. NEORILEYELLA HYALINA new species. Female.

Length, 3.90 mm.

Reddish, the head, antennæ and legs honey-yellow, also the venation but the curved stigmal vein inclined to be fuscous; center of occiput above black. Wings hyaline. Abdomen honey-yellow, striped transversely with brownish black. Hind femur compressed. Scutellum uniformly sculptured, there being no transverse suture, not distinct as a suture in the type species.

One female from a gall on the currajong tree, February 20, 1913 (No. 2 of G. F. Hill).

Habitat: Port Darwin, Northern Territory.

Type: No. *Hy 3279*, Queensland Museum, Brisbane, the female on a card, the hind leg and an antenna on a slide.

3. NEORILEYELLA ALBICLAVA new species.

Female:—Length, 2.10 mm.

Dark red, the abdomen reddish brown, the antennæ and legs also but the club pure white, the tarsi pale and the tips of the first two pairs of tibiæ. Fore wings with a pattern somewhat as with the genotype but the pattern is black and the narrow line across from the bend of the submarginal vein is more oblique, distinctly joined near caudal margin with the large black area; the latter differs in extending much nearer to the apex, in being distinctly broken by a comet-shaped hyaline dash with its longer end (tail) against the side of the stigmal vein; disto-caudad, the infumation extends about the length of the stigmal vein beyond the apex of that vein (in the genotype it extends just to the apex of stigmal vein, sloping from thence a little convexly). Mandibles with two acute teeth, a third tooth not distinctly formed. Pedicel distinctly longer than any of the funicle joints of which 1 is longest, only slightly longer than wide, the rest wider than long, wider distad. Club short, its joints not very distinct. Hind tibiæ with two stout, unequal spurs and armed dorsad with a row of short, stout teeth which are not close together. Segments of abdomen equal. Antennæ inserted on a level with the ventral ends of the eyes. Stigmal vein curved. Propodeum with a pair of distinctly separated median carinæ and a carina on each side of these a short distance laterad, making four carinæ about the meson. Segments 2-4 of abdomen incised deeply but very narrowly at meson of caudal margin, glabrous; other segments dorsad finely sculptured. Thorax (excluding propodeum) punctate. Hind femur stout. Abdomen sessile. Axillæ separated by a short carina. Abdomen shaped as in the Eurytomini; finely scaly distad. Parapsidal furrows very slightly indicated cephalo-laterad only and thus differing from the genotype.

Described from one female captured by sweeping in the forest, April 15, 1914 (A. P. Dodd).

Habitat: Cloncurry, Queensland.

Type: No. *Hy 3280*, Queensland Museum, Brisbane, the female on a tag.

This species is the type of *Pseudorileya* new subgenus.

PARARILEYA new genus.

Female:—Like *Neorileyella* except that the abdomen has segment 5 much lengthened, longer than half of the surface, the others short, transverse. Postmarginal vein a little longer than the stigmal. The axillæ are distinctly separated. Stigmal vein straight. The umbilicate punctures are shallow and not dense, the thorax finely reticulate. Caudal margin of pronotum straight, the pronotum as long as the scutum. The parapsidal furrows are present, delicate. Abdomen distinctly scaly dorsad except segment 3 and apex of segment 2 broadly. Abdomen with a short petiole, shaped as in the Eurytomini.

1. PARARILEYA SPADIX new species. Genotype.

Female:—Length, 2.15 mm.

Reddish brown, the wings hyaline, the legs and scape yellowish brown, the flagellum dusky. Funicle 1 longest, subquadrate, the others gradually shortening, the pedicel a little longer than funicle 1. Distal joint of funicle distinctly wider than long. Mandibles 4-dentate. Hind tibia with two spurs. Propodeum with a somewhat W-shaped carina across it running down each side like a lateral carina, curving along the caudal margin and then cephalad to cephalic margin of propodeum at the meson where it makes an obtuse turn and repeats on the opposite side; it is shaped like a W with the apex of the middle arm obtuse instead of being acute. Axillæ rather widely separated. Abdomen finely scaly reticulated like the thorax. Parapsidal furrows very delicate.

From three females reared from cecidomyiid galls on a wild grape vine, April, 1913 (A. P. Dodd).

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 3281*, Queensland Museum, Brisbane, the above specimens on a tag.

Species in this family as a rule do not shrivel. The present arrangement of the tribes may break down by the too great instability of their characteristics. The Eurytomini and Isosomini may, perhaps, have to be joined. The differences in their thoracic structure are certainly not great and the habits of the two seem to be identical. It is, therefore, a question as to the value of tribal groupings based upon secondary sexual characters. My knowledge of the family, however, is not extensive and for the present I do not like to interfere with the present arrangement other than to suggest its probable unnaturalness, more especially as regards genera.

AUSTRALIAN HYMENOPTERA CHALCIDOIDEA—XII.*

The Family Callimomidæ with Descriptions of New Genera and Species.

By A. A. Girault.

SUBFAMILY CALLIMOMINAE.

Genus TORYMUS Dalman.

1. TORYMUS EUCALYPTI Ashmead. Female; male.

Length, 2.8 to 3 mm.; ovipositor as long as the body. Gold green with cupreous reflections; head in front and mesopleura blue-green; mandibles rufous; palpi white; antennæ brown-black, scape and pedicel æneous; tegulæ and legs except coxæ and the hind femora which are metallic green, pale yellowish, tibial spurs and tarsi white; wings hyaline, stigmal and marginal veins brown.

Head shagreened and punctate, ocelli red; thorax above transversely wrinkled or striate, with some sparse punctures scattered over its surface; metathorax smooth, with some short lineations at extreme base just back of scutellum; mesopleura smooth, impunctate except some delicate lines on anterior margin; hind coxæ large, coarsely reticulated.

The male measures from 2 to 2.25 mm. and agrees well with the female except in the usual sexual differences, and in having sometimes a brownish or metallic band on the anterior and middle femora, the extreme base of the scape being yellowish, while the flagellum is stouter, with the joints a little wider than long.

Habitat: Sydney, New South Wales. From a soft red gall on *Eucalyptus.*

Type: No. 4877, United States National Museum, Washington, D.C., U.S.A.

Genus CALLIMOME Thomson.

1. CALLIMOME ACACIÆ Cameron.

"Green; thorax tinged with blue, face and malar space tinged with golden, antennal scape green, flagellum black; trochanters, base and apex of femora narrowly and tibiæ and tarsi yellow, almost white; wings hyaline, nervures black.

♂ ♀. Length, 2 mm.; terebra 1.5 mm.

Erina, N.S.W., bred from small berry-like galls on the foliage of *Acacia* sp.; 28 August (W. W. Froggatt).

Face strongly punctured, more weakly above than below, and more sparsely in the middle above; a keel runs down its middle from the antennæ, it becoming widened below. Vertex and front sparsely punctured, their sides transversely striated, the latter more strongly than the former; the space below the ocelli aciculated only. Mesonotum finely, closely transversely striated. Base of scutellum transversely, the sides finely and closely longi-

* Contribution No. 35, Entomological Laboratory, Bureau of Sugar Experiment Stations, Bundaberg, Queensland.

tudinally striated, the apex in the middle more finely transversely striated. Base of metanotum with a crenulated furrow, centre almost smooth, sides with some oblique striæ. The top of propleuræ with a few oblique stout striæ running from the base to the apex, the rest more finely and closely striated, the striæ more or less curved. Metapleuræ smooth, the lower half depressed, rounded above, the sides margined. Abdomen smooth above, the sides finely, closely, obliquely striated. Legs closely covered with white pubescence; hinder coxæ closely, finely reticulated; hinder femora finely punctured.''

2. CALLIMOME GRAMINIS Cameron.

''Green with blue and brassy tints, flagellum of antennæ black; the four anterior knees, tibiæ and tarsi and the base and apex of hind tibiæ and hind tarsi, pale straw-yellow; palpi of a paler yellow; wings hyaline, their apex ciliated, nervures black.

♂. Length, nearly 2 mm.

Boggabri, N.S.W.; in January; bred from seeds of the grass *Panicum* sp. (W. W. Froggatt).

Flagellum of antennæ fuscous on the apex and under side closely covered with a microscopic pile; its second joint twice longer than wide, clearly longer than the third. Head minutely punctured and with scattered punctures. Middle lobe of mesonotum closely, distinctly punctured and with some indications of minute striæ; parapsidal furrows distinctly curved; the lateral lobes almost smooth, the puncturation much finer than it is on the middle lobe. Scutellum finely, closely regularly punctured, more so than the mesonotum. Central part of metanotum finely, closely punctured, somewhat more strongly so than the scutellum; the sides are smooth and are bounded by a distinct, clearly defined, oblique furrow, which makes the sides triangular. Upper part of mesopleuræ smooth, this smooth part forming an irregular curve; the centre is depressed, closely finely striated; this striated part is roundly curved above; below bounded by an oblique straight margin. In the wings the stigmal vein is of the same length as the postmarginal, while with some, at least, of the European species, it is shorter. I do not know that any of the species of *Callimome*, like some, at least, of *Megastigmus*, have been shown to be phytophagous. (See my paper in ''The Entomologist,'' April, 1910, pp. 114-115.) The present species fits in better with *Callimome* than with *Torymus*, but I am unable to examine the mandibles properly.''

3. CALLIMOME RETICULATUS Cameron.

''Green, abdomen largely tipped with blue, probably almost entirely so in some specimens, antennal scape and pedicel green, flagellum bronzy brown, covered with a microscopic pile. Head aciculated, sparsely punctured. Mesonotum finely, closely reticulated, the lateral lobes more finely and closely than the central; the furrows distinct, curved, not very deep; a shallow furrow down the middle of the basal half. Scutellum more finely and closely reticulated than the mesonotum, its apex broadly rounded. Center of metanotum finely, closely reticulated, the sides smooth. Pleuræ smooth, apex of mesopleuræ with a steep slope, which forms almost a furrow. Legs dark green, tinged with blue, apex of femora and tibiæ and the greater part of the tarsi yellow. Wings hyaline, nervures black, postmarginal branch distinctly longer than the stigmal, the knob of the latter with the apex broadly rounded, the base triangular.

♂. Length, 2 mm.

Boggabri, N.S.W; in January; bred from seeds of *Panicum*.

This species was gummed on the same card with *C. graminis*, both species represented by males only. They are, I consider, good species; *C. reticulatus* should be known by the closely reticulated mesonotum of which the lateral lobes are not smooth, as in *C. graminis*, but reticulated; the mesopleural furrow is narrower and more clearly defined; *C. graminis* has no furrow on the center of the mesonotum. Its abdomen is longer, compared with the thorax; and the flagellum of the antennæ has a more distinctly metallic tinge.''

SUBFAMILY MONODONTOMERINÆ.

GENUS DIMEROMICRUS Crawford.

1. DIMEROMICRUS AUSTRALIENSIS Girault. Female.

Length, 2 mm., excluding ovipositor which is longer than the abdomen.

Brilliant shining metallic æneous green with a bluish tinge, the legs concolorous excepting the knees, tibiæ and tarsi, which are lemon yellow. Antennæ and valves of ovipositor black; wings hyaline. Scape metallic; club verging to brown. First funicle joint variable, usually smallest, all shorter than the pedicel. Second ring-joint largest. Sculpture as in type species. Mandibles tridentate.

Habitat: Lawson and Forest Reefs, New South Wales.

Type: I. 1291, South Australian Museum, Adelaide.

2. DIMEROMICRUS BREVIVENTRIS Girault. Female.

Length, 1.25 mm.

Like *australiensis* but the tibiæ also concolorous, the ovipositor somewhat shorter, subequal to the abdomen in length; also the first funicle joint is subequal to the others, all subtransverse. Hind femur beneath excised at apex the excision forming a false tooth or small obtuse triangular piece at its proximal edge (not an isolated or true tooth). Thorax reticulately scaly. Propodeum with a median carina, together with the abdomen reticulated. Scutellum with a trace of a transverse suture at extreme apex at meson but this appears to be due to pressure, the specimens have been in balsam on a slide. Otherwise agreeing with *australiensis.*

Habitat: Brisbane, Queensland. Forest, April 16, 1913 (H. Hacker).

Type: No. *Hy 3292,* Queensland Museum, Brisbane, the female on a tag and a slide bearing the appendages.

GENUS AMONODONTOMERUS Girault.

Agreeing with *Monodontomerus* Westwood but the abdomen petiolate, the eyes naked, the posterior femora simple, not swollen nor with teeth. Scutellum with a cross-furrow; ovipositor not half the length of the abdomen; abdominal segments with their posterior margins straight. Antennæ 12-jointed with one long ring-joint, the club stout, 4-jointed. Stigmal vein with a distinct neck, the postmarginal vein longer than the marginal. Antennæ short and clavate, the funicle joints transverse.

1. AMONODONTOMERUS VIRIDIS Girault. Female. Genotype.

Length, 2.50 mm.

Brilliant metallic green, the antennæ, the ovipositor and the legs (excepting coxæ) reddish brown, the middle of the posterior femora sometimes metallic greenish; valves of ovipositor black. Wings hyaline; the venation dusky. Head and thorax finely transversely lined and with scattered pin-punctures, the latter arranged in about two transverse lines on the pronotum. Abdomen smooth and shining but also with the punctures across the cephalic portions of the segments. Petiole roughened. Club sunken and obliquely truncate along one side. The measurement is exclusive of the ovipositor.

Habitat: Port Lincoln, South Australia.

Type: No. *I. 1291,* South Australian Museum, Adelaide.

GENUS MACRODONTOMERUS Girault.

Like *Plesiostigmodes* Ashmead but the pronotum normal, not by far as long as the mesonotum; scutellum without a cross-furrow; abdomen produced ventrad at middle, triangular from lateral aspect. Otherwise the same.

1. MACRODONTOMERUS TRIANGULARIS Girault. Female. Genotype.

Length, 2.40 mm., exclusive of ovipositor which is somewhat shorter than the body.

Brilliant metallic æneous green, the knees, tibiæ and tarsi straw-yellow, the rest of the legs concolorous. Wings hyaline, the stigmal vein very short, only half the length of the short postmarginal. Cephalic femora short, swollen, the posterior femora slightly enlarged and with a small tooth beneath before apex (also a slight indication of a second one farther proximad) and very minutely subserrulate. Antennæ with two ring-joints, the first funicle joint longest, slightly longer than wide, shorter than the pedicel; antennæ black. Thorax finely transversely lined and scaly.

Habitat: Mittagong, New South Wales.

Type: No. *I. 1335*, South Australian Museum, Adelaide.

2. MACRODONTOMERUS JUSTITIA new species. Female.

Length, 2 mm., excluding the exserted valves of the ovipositor which are somewhat longer than the globular abdomen.

Bright metallic green, the wings hyaline, the legs and antennæ pale straw yellow; hind coxæ concolorous. Abdomen pale straw, crossed above by two or three widely separated dusky stripes. Mandibles tridentate, the antennæ 13-jointed with two ring-joints, the first two funicle joints equal, longest, a little wider than long, the following joints shortening gradually, the pedicel somewhat longer than the first funicle joint. Hind tibial spurs double. Scutellum simple; propodeum with an obscure pair of short median carinæ. Head and all of the thorax finely scaly and transversely lineolated, the propodeum slightly smoother.

Habitat: Gordonvale (Cairns), Queensland. From galls on forest trees, December 12, 1912 (A. P. Dodd).

Type: No. *Hy 3293*, Queensland Museum, Brisbane, the female on a tag, the appendages on a slide.

3. MACRODONTOMERUS UNIMACULATUS Girault. Female.

Length, 2.43 mm., excluding ovipositor which is a little longer than the abdomen.

Dark metallic coppery green, the abdomen brown, black above, the ovipositor valves black, the scape and pedicel brown, rest of antenna black. Second segment of abdomen incised at meson of caudal margin. Legs yellowish including the coxa. Fore wings with a large, conspicuous, ovate, brownish spot in the middle, its long axis obliqued, its blunter end just caudad of the stigmal vein. Head and thorax densely punctate, the propodeum smooth except along cephalic margin, brilliant coppery and with a median carina.

All funicle joints longer than wide, the first longest, subequal to the pedicel, the sixth a third shorter, only slightly longer than wide. Mandibles tridentate.

Habitat: Ingham, Queensland. February 16, 1913.

Type: No. *Hy 3294*, Queensland Museum, Brisbane, the female on a tag and a slide bearing the appendages.

4. MACRODONTOMERUS ATRICORNIS new species.

Female:—Length, 2.50 mm., excluding ovipositor.

Agrees with *triangularis* but the exserted portion of the ovipositor is only slightly longer than the abdomen, about half the length of the body and the first funicle joint though only somewhat longer than wide is as long as or somewhat longer than the short pedicel. The yellow portions of the legs are lemon yellow. Mandibles tridentate. Hind margin of second segment of abdomen with an acute notch at meson. Propodeum with a thin median carina, sculptured like the rest of the thorax or nearly but the scutum, scutellum, axillæ and parapsides bear many scattered thimble punctures.

Male:—The same but the ring-joints somewhat shorter, the abdomen depressed.

Described from two pairs of each sex on a card labelled "5. Galls on Wattle. Govt. Domain, Melb., Nov. '08. Emerged Feb. '09."

Habitat: Melbourne, Victoria.

Types: In the National Museum, Melbourne, the above specimens and a slide with male and female head and female antennæ and fore and hind legs.

5. MACRODONTOMERUS IOLE new species. Female.

Length, 1.35 mm., excluding the ovipositor which is about a third shorter than the abdomen.

Metallic æneous green, the abdomen coppery, the wings hyaline, the legs pale but with a yellowish tinge (hind coxæ concolorous with body, the others more or less so); venation lemon yellow, also the antennæ of which the pedicel is longer than the first funicle joint. Thorax transversely finely lined, the propodeum with a median carina and fine reticulation. Postmarginal vein a little longer than the stigmal which is not sessile. Mandibles tridentate.

Habitat: Gordonvale (Cairns), Queensland. Forest, October 24, 1911.

Type: No. *Hy 3295*, Queensland Museum, Brisbane, the female on a tag, the head and hind legs on a slide.

6. MACRODONTOMERUS CINCTIVENTRIS new species.

Female:—Length, 1.60 mm., exclusive of ovipositor which is extruded for a length equal to that of the abdomen.

Dark metallic purple, the wings hyaline. Closely resembling *capricornis* but the ovipositor is distinctly shorter, the proximal yellow of the abdomen is more distinctly delimited forming a distinct, broad band; the coxæ and femora are concolorous (not white or nearly as in the other species, the hind coxa somewhat colored only). Proximad, somewhat over a third of the abdomen is golden yellow (segment 2). Caudal margin of abdominal segments straight. Propodeum without a median carina but with oblique striæ from cephalad. The postmarginal vein is distinctly longer than the stigmal. Vertex punctate; thorax subpunctate, scaly and somewhat roughened. Hind coxa coarsely reticulated, the lines forming raised polygons. Hind femur beneath finely denticulate, not excised but with a distinct, complete tooth before apex, this tooth obtuse at apex. Scape yellow. Funicles 1-4 quadrate, a little or barely shorter than the pedicel; funicle 6 a little wider than long. Mandibles tridentate. Immediate base of abdomen dorsad purple.

From one female captured in jungle, May 19, 1913 (A. P. Dodd).

Habitat: Kuranda, Queensland.

Type: No. *Hy 3296*, Queensland Museum, Brisbane, the specimen on a tag, the head, hind legs and a fore leg on a slide.

A second female April 10, 1914 by sweeping jungle.

7. MACRODONTOMERUS CAPRICORNIS new species.

Female:—Length, 1.80 mm., excluding ovipositor which is somewhat longer than the globular abdomen.

Like *justitia* but dark æneous green, the pronotum, head and scutum dark purplish, the abdomen pale yellowish along proximal third, the distal half or more dark purplish. Also, the legs are more yellowish. The suture on face of mesepimeron is more triangular, the oblique sulcus on the episternum immargined and less distinct. There are no scattered thimble punctures on scutellum as with *justitia*. Propodeum plane, scaly.

Described from one female captured by sweeping in forest, August 2, 1913.

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 3297*, Queensland Museum, Brisbane, the above specimen on a tag, the head and hind legs on a slide.

8. MACRODONTOMERUS UNGUTTATIPENNIS new species.

Female:—Length, 2.50 mm., excluding the ovipositor which is about as long as the abdomen.

Rather dark metallic green with coppery tinges, the abdomen coppery; tarsi, tips of tibiæ (more of cephalic tibia) and scape straw yellow. Fore wing with a moderate-sized round fuscous spot in the center of the blade (somewhat caudad of center) opposite about apex of proximal third of marginal vein. Head with a very fine sculpture, thickly beaded with pin-punctures; thorax similarly sculptured. Propodeum subglabrous, delicately scaly, non-carinate but with short rugæ at cephalic margin between the spiracles. Segment 2 of abdomen slightly incised at meson of caudal margin, glabrous, the rest of the abdomen with polygonally scaly sculpture, segments 3, 4 and 5 also with the caudal incision (apparently obsolete, indicated in outline on 3 and 4, distinct on 5). Hind femur with two distinct yet small, obtuse pimple-like teeth, the distal larger, on the distal half yet not near apex. Funicle 1 longest, subequal to pedicel, a little longer than wide; 2 quadrate, 6 distinctly wider than long. Mesepimeron glabrous, with a semicircular suture dorsad of middle.

From one female captured September 28, 1913 (H. Hacker).

Habitat: Caloundra (Brisbane), Queensland.

Type: No. *Hy 3298,* Queensland Museum, Brisbane, the above specimen on a tag; a fore and hind leg and the antennæ on a slide.

9. MACRODONTOMERUS SEMISANGUINEUS new species.

Female:—Length, 2.10 mm., excluding ovipositor which is extruded for a length equal to a little more than that of the abdomen.

Dark metallic æneous green, the wings hyaline, the propodeum blue, the tegulæ and legs lemon yellow; hind femur orange yellow; caudal two pairs of coxæ metallic green. Valves of ovipositor black, whitish at extreme tip. Abdomen blood red. Antennæ black, the scape lemon yellow. Propodeum finely scaly; rest of thorax scaly and transversely lineolated. First two or three segments of abdomen excised caudad at meson but not greatly so. Mandibles tridentate. Funicle 1 longest, somewhat longer than wide, subequal to the pedicel, 6 somewhat wider than long. Pubescence not conspicuous. Abdomen scaly, laterad more or less longitudinally reticulated.

From one female caught April 18, 1914 (A. P. Dodd). Forest.

Habitat: Cloncurry, Queensland.

Type: No. *Hy 3299,* Queensland Museum, Brisbane, the specimen on a tag.

PROPLESIOSTIGMA new genus.

Female:—Characterized by the antennæ which are inserted near the clypeus and are 12-jointed with two short ring-joints, the club 3-jointed. Hind tibiæ with two spurs, the hind femora compressed but unarmed. Scutellum convex, simple. Stigmal vein not sessile, moderately long. Mesepimeron not incised caudad. Extruded part of the ovipositor short, not more than a third the length of the abdomen. Mandibles with four distinct teeth. Post-marginal vein a little shorter than the stigmal, not more than a fifth or sixth the length of the marginal which is shorter than the submarginal. Marginal fringes of fore wing very short. Propodeum at the meson transverse-linear, without a median carina. Abdomen normal.

1. PROPLESIOSTIGMA UNFASCIATUS new species. Genotype.

Female:—Length, 0.80 mm., excluding ovipositor.

Dark metallic blue green, the wings hyaline, the scape and legs pale straw yellow except intermediate and hind coxæ and proximal half or less of hind femur. Rest of antennæ

dark brownish. Thorax finely scaly reticulate. Abdomen suffused with brown, at distal two thirds crossed by a rather narrow orange transverse stripe which diffuses or broadens somewhat in the lateral aspect. Extruded valves of ovipositor black. Pedicel a little longer than wide, the funicle joints rather stout, all wider than long, enlarging distad, 5 largest and as long as the short pedicel.

From one female captured by sweeping in forest, Mount Pyramid, 2,000 feet, June 3, 1913 (A. P. Dodd).

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 3300*, Queensland Museum, Brisbane, the specimen on a tag, the head and a hind leg on a slide.

DITROPINOTELLA new genus.

Female:—In J. C. Crawford's (1907) table of genera running to *Ditropinotus* Crawford but differing from that genus and nearly all the allied genera in bearing 12-jointed antennæ with one distinct ring-joint, the club only 2-jointed. Hind femora compressed, unarmed, the tibial spurs normal. Occipital impression immargined. Propodeum with a pair of median carinæ close together and a line of foveæ running from the spiracle and around the caudal margin. Postmarginal vein somewhat shorter than the marginal, much longer than the stigmal. Scutellum simple. Mandibles distinctly bidentate, the inner margin of the second tooth broadly, obliquely truncate. Abdomen sessile, greatly compressed (a mere line from above), from lateral aspect broadly ovate, the ovipositor exserted for not more than a fourth of its length; segments not visible in dorsal aspect but as seen dorso-laterad all the caudal margins straight.

1. DITROPINOTELLA COMPRESSIVENTRIS new species. Genotype.

Female:—Length, 1.65 mm.

Bright metallic green, the wings hyaline, the legs yellow-brown but the coxæ washed with metallic. Scape colored like the legs. First three or four funicle joints subquadrate, shorter than the pedicel, joints 5 to 7 wider than long. Scape blackish at distal half. Head and thorax densely finely scaly, the propodeum glabrous, the scutum and pronotum with many scattered thimble punctures.

From eight specimens reared from galls with *Rhicnopeltella nubilipennis* Girault, which see.

Habitat: Melbourne, Victoria.

Types: In the National Museum, Melbourne, five females on a tag; one fore leg, several hind ones and heads on a slide.

IDARNINÆ.

IDARNOMORPHA new genus.

Female:—Like *Idarnes* Walker but the antennæ are 13-jointed with one ring-joint, the club 4-jointed, the last joint minute, like a nipple yet articulated. Mandibles bidentate. Extruded portion of the ovipositor about three and a half times longer than the body. Postmarginal vein nearly a half longer than the rather long stigmal, as long as the marginal vein. Funicle joints barely longer than wide, shorter than the pedicel. Ring-joint large. Abdomen depressed, longer than the thorax. Mandibles tridentate. Coxæ not especially long. Scutellum flat, with two grooves, one on each side.

Male:—Antennæ 3-jointed, the last two joints forming a club. Mandibles strongly bidentate. Tarsi 5-jointed, the three intermediate joints transversely linear. Head with an antennal fovea, longer than wide. Wings entirely (apparently) absent.

1. IDARNOMORPHA SUBÆNEA new species. Genotype.

Female:—Length, 1.75 mm.

Dark metallic green, the wings hyaline, the lateral part of pronotum yellowish, the scutellum and axillæ brown, the propodeum and abdomen darker. Legs lemon yellow, including the coxæ. Antennæ brown. Vertex and thorax densely scaly, the propodeum glabrous. Venter of pronotum yellowish. Valves of ovipositor black. Most segments of abdomen at caudal margin with a mesal notch. Propodeum scaly laterad of spiracle and at caudal margin caudad of it; noncarinate.

Male:—Length, 2.80 mm.

Head, pronotum and upper parts of the rest of the thorax chestnut brown, the under parts and sides of last two thoracic regions, the abdomen and legs (except the tibiæ) lemon yellow. Distal antennal joint lemon yellow, the others brown, the first as long as the distal two combined, the distal one shorter than the intermediate joint. Tibiæ brown, encircled at apex by strong, short spines.

Two males, one female reared from figs with *Ceratosolensia ficophaga* Girault.

Habitat: Gordonvale (Cairns), Queensland. Jungle, September 18, 1912.

Types: No. *Hy 3301*, Queensland Museum, Brisbane, a female on a tag, its head and two males on a slide.

GONIOGASTRELLA new genus of Girault and A. P. Dodd.

Differs from *Goniogaster* Mayr in that the hypopygium is not prominent, the mandibles bear two acute teeth, the pronotum is quite normal, transverse linear and convex as seen from above, by far not as large as either the meso- or metanotum. The antennæ bear an additional club joint, the fourth joint distinct but small; antennæ 13-jointed with two ring-joints. Segments of the depressed abdomen produced ventrad and widening. Coxæ long, conical, the tibiæ not quite as long as their respective femora, the caudal coxæ very long, as long as the cephalic femur which is one and two thirds the length of the cephalic coxa. *Mesepimeron not incised.* Scutellum subconvex, simple. Parapsidal furrows complete, distinct. Postmarginal vein nearly as long as the marginal, the shorter stigmal curved. Ovipositor extruded for nearly twice the length of the body. Caudal tibial spurs double, slender. Axillæ widely separated. First tarsal joint short in cephalic legs, long in the others.

1. GONIOGASTRELLA CAUDATUS new species. Female. Genotype.

Length, 2.50 mm., excluding ovipositor.

Æneous green, the wings hyaline; proximal half of abdomen ventrad and slightly dorsad, legs and scape pale yellow; rest of antenna black. Thorax densely reticulated, the lines not raised, the propodeum smoother, noncarinate. Pedicel a little longer than any of the funicle joints which are subequal, each a little longer than wide; scape slender.

Habitat: Gordonvale (Cairns), Queensland (type) and Bachelor, Northern Territory. Jungle. Associated in figs with *Idarnomorpha subænea* Girault. November.

Types: No. *Hy 3302*, Queensland Museum, Brisbane.

A common species in the jungle at Gordonvale, mid-November.

Genus PHILOTRYPESIS Foerster.

1. PHILOTRYPESIS LONGIVENTRIS new species. Female.

Length, 2.75 mm., excluding the ovipositor and extended part of abdomen. Brownish black, the legs yellowish brown, the wings hyaline; sides and venter of abdomen yellowish brown. Scape concolorous with legs, the flagellum black, the black pedicel subequal to the first funicle joint, the next two funicle joints (2 and 3) subequal, each a little shorter than 1;

distal funicle joint a little longer than each of the three club joints. Clypeal area yellow. Mandibles bidentate. Body, including propodeum and abdomen, finely scaly, the propodeum without a median carina. Postmarginal vein twice the length of stigmal; ovipositor twice the length of the tubular part of abdomen, as long as the body.

Habitat: Gordonvale (Cairns), Queensland. Jungle, June 4, 1913.

Type: No. *Hy 3303*, Queensland Museum, Brisbane, the female on a tag, the head on a slide.

A second female March 29, 1914, jungle at Halifax (Ingham), Queensland and one at Gordonvale, April, 1913. The propodeal spiracle is minute and far caudad; ventral half of the face yellowish.

2. PHILOTRYPESIS SILVENSIS new species.

Female:—Length, 2.50 mm., excluding segment 7 of abdomen and ovipositor.

Golden yellow; abdomen with a broad median stripe of black, commencing out from base and running to about the middle where a complete narrow cross-stripe terminates it; about its middle it projects laterad; a little farther distad another cross-stripe, twice broader than the other and obtusely conically prolonged distad at the distal meson. An elongate spot at meson. Also the meson of the tube which is somewhat longer than the rest of the abdomen, the portion of the ovipositor beyond it a little longer than the body. Scape four times the length of the pedicel, yellow, dusky toward tip; rest of antennæ black; funicle 1 longest, a little longer than the pedicel, the distal joint longer than wide. Mandibles bidentate. The first funicle joint is distinctly longer than wide (in *angela* it is quadrate). Like the other species.

Seven females from a fig, in jungle, January 21, 1914 (A. P. Dodd).

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 3304*, Queensland Museum, Brisbane, a female on a tag, the head on a slide.

3. PHILOTRYPESIS ANGELA new species. Female.

Length, 2.26 mm., excluding the black ovipositor which is nearly as long as the body.

Deep pinkish orange, the wings hyaline, the legs and scape concolorous, the flagellum dusky. Three transverse black spots across meson of abdomen, the first (proximal) smallest, all more or less triangular; also a black dot at meson, apex of fifth segment and which is nearly joined to the narrow, black dorsal surface of the (following) two produced or tubular segments of which the apparent second is shorter. Postmarginal vein longer than the stigmal. Propodeum with three (apparent) delicate and obscure sulci at meson, separate; scutellum simple but together with the scutum with a median longitudinal impression. Thorax finely reticulated. Antennæ 13-jointed, three ring and club joints, the funicle joints only slightly longer than wide and more or less equal. Mandibles bidentate.

Habitat: Ayr, Queensland. Forest, November 6, 1912.

Type: No. *Hy 3305*, Queensland Museum, Brisbane, the female on a tag, the head on a slide.

4. PHILOTRYPESIS LONGICAUDA new species of Girault and A. P. Dodd. Female.

Almost exactly similar to *angela* but funicle 1 is plainly longer than wide, the club joints are less distinctly separated but the sutures distinct, the three ring-joints are concolorous with the scape while the three marks on abdomen along the meson are not transverse spots but round dots; the fourth (distal) one is V-shaped and then attenuate caudad along the meson to segment 7. The delicate sulci on the propodeum are obscure in both species.

Habitat: Gordonvale (Cairns), Queensland. Forest, December 4, 1913.

Type: No. *Hy 3306*, Queensland Museum, Brisbane, the female on a tag, the head on a slide.

5. PHILOTYPESIS IMMACULATA new species.

Female:—Length, 3.80 mm., excluding ovipositor which is extruded for a length equal to that of the body.

Deep golden yellow, unmarked except the black median line of the tubular part of the abdomen; funicle and club black; funicle 1 subequal to the pedicel, a little longer than wide, the following segments but very little shorter. Mandibles with a weak, minute third tooth. Segment 2 of abdomen longer than 3, its caudal margin with a slight incision at meson. Allied with *angela*.

From one female caught by sweeping bushes, October 10, 1913 (G. F. Hill).

Habitat: Port Darwin, Northern Territory.

Type: No. *Hy 3307*, Queensland Museum, Brisbane, the specimen on a tag, the head on a slide.

The species agree with Ashmead's diagnosis but in *longicauda* it was noticed that the long tubular segment of the abdomen is single and segment 7 apparently, segment 6 not tubular and black along the meson only, the V-shaped black marking at base of segment 5. Segment 7 is also black along the meson and is tumid toward tip, thus giving an appearance of two segments at the tumid place but there is no articulation there, seemingly.

PARACOLYSTICHUS new genus.

Female:—In Ashmead's table of genera (Ashmead, 1904) running to *Colystichus* Mayr but the antennæ are inserted in the middle of the face, the joints normal, the abdomen is greatly compressed, seen from the side much convexed above, from dorsal aspect forming a line or nearly, the valves of the ovipositor distinctly extruded but barely for more than a sixth or seventh of the length of the abdomen which is longer than the rest of the body. Propodeum very short at the meson. Mandibles tridentate. Parapsidal furrows delicate, curved laterad. Postmarginal and stigmal veins well developed the former distinctly the longer, only about a fourth shorter than the marginal. Hind tibial spur single, long and slender, as long as the first tarsal joint (only one hind leg seen).

1. PARACOLYSTICHUS COMPRESSIVENTRIS new species. Genotype.

Female:—Length, 1.20 mm.

Dark reddish coppery, the sides of the abdomen dark æneous green, the wings hyaline; tibiæ and tarsi pale yellow except the former dorsad. Antennæ wholly black, also the valves of the ovipositor. Thorax finely reticulated. Scape cylindrical, pedicel oval, somewhat longer than any of the funicle joints all of which are a little wider than long and subequal. Club without a terminal spine, conic ovate, not much enlarged. Abdomen sculptured like the thorax, the segments not greatly lengthened, 2, 6 and 7 longest.

Described from one female captured on a window in a forest clearing, April, 1912.

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 3308*, Queensland Museum, Brisbane, the above specimen on a tag, the head and a hind leg on a slide.

2. PARACOLYSTICHUS AMPLIPENNIS new species.

Female:—Length, 1.30 mm.

Very similar to *compressiventris* Girault but a little larger, the scutellum bears scattered thimble punctures (only one or two on *compressiventris*), the antennal joints are a little stouter, the scape is yellow at proximal three fourths and the fore and hind wings are very much broader, being the characteristic of the species. Thus, the fore wings bear about thirty lines

of fine, indistinct discal cilia (only about eighteen in *compressiventris*). Also, the postmarginal vein is as long as the marginal. Hind tibial spur single, long and slender.

From one female captured on the window of a wool warehouse, October 30, 1911.

Habitat: Brisbane, Queensland.

Type: No. *Hy 3309*, Queensland Museum, Brisbane, the above female on a slide.

EPICOLYSTICHUS new genus.

Female:—Exactly similar to the preceding but there are *three* ring-joints instead of *two*, the antennæ 13-jointed; also the abdomen is somewhat less compressed, the propodeum is somewhat longer and with delicate median and lateral carinæ, the isolated small round spiracle *central* (*apparently* the same in the preceding but the spiracle larger and in its usual position cephalad but I could not be certain). The hind tibiæ bears two spurs of which one is long and slender as in *Paracolystichus*, twice the length of the other. Otherwise, the two agree.

1. EPICOLYSTICHUS ÆREICORPUS new species.

Female:—Length, 1.25 mm.

Like the preceding species but the thorax less coppery or brown, the tibiæ and tarsi reddish brown and the scape yellowish except at distal third. The antennæ very similar. Lateral ocellus distinctly not touching the eye margins. Abdomen sculptured much like the thorax.

From six specimens found on flowers of a forest tree, January 4, 1913.

Habitat: Gordonvale (Cairns), Queensland.

Types: No. *Hy 3310*, Queensland Museum, Brisbane, three specimens on a tag, a head and hind leg on a slide.

GENUS TRICHAULUS Mayr.

1. TRICHAULUS AENEICORPUS new species.

Female:—Length, 1.33 mm., excluding ovipositor.

Dark æneous, the wings hyaline; knees, tibiæ and tarsi pale and distal portion of femora. Antennæ and ovipositor black. Thorax and abdomen uniformly scaly reticulate. Flagellum clavate; funicle 1 twice the size of either ring-joint, increasing in size, 5 longest, shorter than the pedicel. With the habitus of *Eupelmus*; slender. Antennæ 13-jointed with three ring-joints, the funicle joints wider than long, the club 3-jointed. Parapsidal furrows complete. Scutellum convex, simple. Mandibles weakly tridentate. Stigmal vein with a short neck, a fourth the length of the marginal, a little shorter than the postmarginal. Abdomen sessile, elliptical oval (dorsal aspect), segments 2 and 6 together occupying three fourths of the surface, 2 longest, their caudal margins incised at meson; ovipositor not quite as long as the body; segment 2 occupying a third of the surface, 6 not much shorter than it. Propodeum noncarinate, plane, the spiracle round, cephalad. Mesepimeron not incised. Hind tibial spur single, small. Hind femur simple. Parapsidal furrows ending laterad before the pronotum. Front femur somewhat distinctly swollen but unarmed.

From one female captured in forest, December 24, 1911.

Habitat: Double Island (mainland) Cairns, Queensland.

Type: No. *Hy 3311*, Queensland Museum, Brisbane, the specimen on a tag; head and hind legs on a slide.

KOEBELEA new genus.*

1. KOEBELEA FUSCA Girault. Female. Genotype.

Length, 1.60 mm., excluding the ovipositor.

Yellowish brown, the abdomen transversely striped with black except at base and tip; legs concolorous, the flagellum dusky, the wings hyaline; valves of ovipositor black; ocelli

* Named by Ashmead but the type species was not described. For diagnosis, *see* Ashmead (1904).

in a distinctly curved line. Subpunctate, the propodeum weakly longitudinally striate centrally, laterad with weak scaly sculpture; scutellum with a grooved line near each lateral margin. Antennæ 13-jointed with two ring-joints, the club 3-jointed, terminating in a spur which has the appearance of being a true joint (if so a fourteenth joint); pedicel somewhat longer than any of the following joints, 3 of the funicle being subquadrate. Mandibles tridentate. Ovipositor very slender, curled. Postmarginal vein longer than the stigmal, which is subequal to the marginal. Axillæ with an ovate black spot in the cephalo-lateral angle. Ovipositor twice longer than the body.

Habitat: Cairns, Queensland.

Type: No. *I. 1334*, South Australian Museum, Adelaide.

2. KOEBELEA CONCISIVENTRIS new species.

Female:—Length, 1.70 mm., excluding ovipositor.

Very similar to *fusca* Girault but at once differing in the length of the ovipositor which is only a third longer than the body, in the type species over twice the length of the body. Also, the head is wider, the abdomen flatter and broader, the antennæ concolorous (not dusky black as in *fusca*) and the five black abdominal stripes are more distinct. The head and thorax in both species are scaly, the propodeum is noncarinate, glabrous medially and on each side of meson with the *appearance* of weak oblique striæ (really streaks of lighter yellow).

From several females reared with several of *fusca* from the same fig, jungle, January 16, 1914 (A. P. Dodd).

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 3312*, Queensland Museum, Brisbane, one female on a tag with a female of *fusca*; head on a slide with a head of *fusca*.

Idarnomorpha and *Goniogastrella* were also present in the fig with the two species of this genus.

Genus IDARNOIDES Girault.

Like *Idarnes* Walker but the scutellum without grooves, the antennæ 12-jointed with two ring-joints, the funicle joints mostly subquadrate but the first distinctly longer than wide. Mandibles bidentate. Marginal vein twice or more the length of the stigmal, the postmarginal long, nearly twice longer than the stigmal. Parapsidal furrows complete. Ovipositor longer than the body. Scutellum flat.

1. IDARNOIDES CHANNINGI Girault. Female. Genotype.

Length, 1.65 mm.

Deep metallic blue-green, finely polygonally reticulated; wings hyaline; scape and legs straw yellow, the pedicel brown; valves of ovipositor and flagellum black. Scape long and slender.

Habitat: Cairns, Queensland.

Types: No. *I. 1336*, South Australian Museum.

PODAGRIONINÆ.

PODOGRIONELLA new genus.

This genus differs from *Podagrion* Spinola in having the club solid and a transverse suture across the scutellum. The postmarginal vein is over twice the length of the stigmal.

1. PODAGRIONELLA FASCIATIPENNIS new species. Female. Genotype.

Length, 5 mm., excluding the ovipositor.

Dark æneous green, shagreened. Fore wings hyaline to subhyaline but with a deep purplish black, nearly straight fascia nearly across them, its distal margin taking in the short

stigmal vein. Antennæ black, the distal third of the club whitish, the funicle brown. Caudal coxæ bluish. Proximad on the fore wing, at middle of submarginal vein, is an irregular cross-stripe of smoky brown; this may be absent. Funicle 1 longest, subequal to the pedicel, the two distal joints barely longer than wide. Mandibles tridentate, the inner tooth much shorter and truncate, the outer two subequal, acute. Scutellum glabrous caudad of the transverse suture. Exserted portion of the ovipositor not as long as the body.

Habitat: Gordonvale (Cairns), Queensland. Forest, December 2, 1912. Not abundant.

Types: No. *Hy 3313*, Queensland Museum, Brisbane, two females on tags, a head on a slide.

2. PODAGRIONELLA BELLA Girault. Female.

Length, 2.25 mm., excluding the extruded ovipositor which is a little longer than the abdomen.

Like *Podagrion hyalina* Girault but the legs all yellow-brown, the trochanters, tarsi, distal fifth of hind coxa and proximal half of hind femur, white. In the hind femur, a dusky spot at upper edge near distal third, the teeth black; prolongation of hind tibiæ somewhat longer and more curved than usual. Abdomen wholly purplish black, tegulæ yellow-brown; abdomen without a petiole but stalked. Funicle black-brown, the club black, the pedicel and scape yellow-brown. Posterior femora beneath with nine teeth, the last tooth yellow, the eighth tooth a mere tubercle, teeth 1, 3 and 4 longest of the black teeth, the ninth as large as 1 or nearly; teeth 5-8 a descending series of heights. First funicle joint longest, nearly as long as the pedicel, the last three joints plainly wider than long, joint 4 (funicle) quadrate; club plainly not as long as the funicle. Propodeum with irregular foveæ, rugose, no median carina, the apex of the scutellum smooth and shining distad of the transverse suture, the head and thorax otherwise scaly and usual.

Habitat: Gordonvale (Cairns), Queensland. Jungle, May 11, 1913.

Type: No. *Hy 3314*, Queensland Museum, Brisbane, the female on a tag; an antenna and a caudal leg on a slide.

3. PODAGRIONELLA PENTLANDENSIS Girault. Female.

Length, 5.10 mm., exclusive of ovipositor.

Very similar to the type of the genus but the antennal club darkens at tip, the flagellum reddish brown, the pedicel darker. The abdominal petiole is shorter, very short, wider than long; the distal two funicle joints are slightly wider than long; the cross dash on the fore wing is the only fuscation present in these wings. The whole body is more robust, the abdomen stouter and longer. Otherwise, structurally, like *fasciatipennis* with which I have compared it but the postmarginal vein is plainly not twice the length of the stigmal.*

Habitat: Capeville (Pentland), Queensland. Forest, January 6, 1913.

Type: No. *Hy 3315*, Queensland Museum, Brisbane, the female on a tag and a slide bearing the caudal femur and the head.

GENUS PROPODAGRION Girault.

Differs from *Podagrionella* Girault in having the club 3-jointed and from *Podagrion* in bearing a cross-suture on the scutellum; the postmarginal vein is twice the length of the stigmal and the propodeum is concave and lacks a median carina.

1. PROPODAGRION WORCESTERI (Girault). Female. Genotype.

Podagrion worcesteri Girault.

Length, 2.75 mm., excluding ovipositor which is about the same length.

Agreeing somewhat with *washingtoni* Girault in coloration but the legs are yellow-brown, the tarsi white while the yellow on the abdomen is dull and at sides and venter of base;

* The femoral teeth appear to have been overlooked.

the fore wings have a distinct dusky, curved dash from the knob of the stigmal vein which extends about half way across the wing; it is not black, merely dusky. Posterior femora beneath with eleven teeth, all distinct, the first largest, then 5 and 7, 3 and 9; 2 and 11 smallest, then 4, then 6, 8 and 10 which are subequal, each not more than half the length of 1. Coxæ green, the tibiæ dark except at tip, at base broadly ringed with yellow-white. First funicle joint much longer than the pedicel, the distal one somewhat wider than long; joints 2 to 4 rather long, 1 longest. Disk of propodeum without a median carina, shallowly concaved, the concavity punctate, without it the surface rugose and sulcate, the middle of the dorso-lateral aspect with a conspicuous oval and deep fovea whose long axis is longitudinal; punctures of propodeal disk about the same as those of the rest of the thorax. Scutellum smooth and shining distad of the transverse line or suture.

Habitat: Gordonvale (Cairns), Queensland. Jungle, May 11, 1913.

Type: No. *Hy 3316,* Queensland Museum, Brisbane, the female on a tag and a slide with the caudal femora and the head.

Genus PODAGRION Spinola.

1. PODAGRION OBSCURUM (Westwood). Female.

Palmon obscurum Westwood. Trans. Ent. Soc. Lond., IV, pt. 4, p. 260 (1847). Australia.

2. PODAGRION OLENUS (Walker).

Palmon olenus Walker, 1839, pp. 7-8.

"*Fem.*—Corpus longum, angustum, convexum, scitissime squameum, parum nitens, parce hirtum: caput transversum, breve, thorace paullo latius; vertex sat latus; frons excavata, abrupte declivis: oculi mediocres, non extantes: ocelli vertice triangulum fingentes: antennæ clavatæ, crassæ, apice quasi truncatæ, thorace non longiores; articulus 1us sublinearis; 2us longicyathiformis; 3us et 4us brevissimi; 5us et sequentes breves, transversi, usque ad clavam latescentes: thorax sublinearis: prothorax transversus, subquadratus, sat magnus: mesothoracis parapsidum suturæ non bene determinatæ: petiolus brevis: abdomen compressum, læve, nitens, thorace multo brevius et angustius: oviductus vaginæ pubescentes, corpore longiores: metapedum coxæ magnæ, femora maxima ovata subtus dentata, tibiæ arcuatæ: alæ mediocres.

Sp. 1. *Pal. Olenus.* Fem. *Æneo-viridis, antennae fulvae, abdomen subtus fulvum, pedes fusco-fulvi, femora viridia, alae limpidae.*

Æneo-viridis: oculi et ocelli rufi: antennae fulvae: abdomen cyaneo et cupreo-varium, subtus fulvum; oviductus rufus; vaginae nigrae: pedes fulvi; coxae virides; femora viridia; tibiae fuscae: alae limpidae. (Corp. long. lin. 2; alar. lin. 2½.)

Sydney, New South Wales."

3. PODAGRION SPILOPTERION Cameron. Female; male.

Length, 3 mm.; ovipositor, 2 mm.

Dark blue; abdomen dark violaceous, hind tibiæ and femora black, tarsi testaceous, antennal scape fulvous; wings hyaline, nervures black, a large blackish-violaceous cloud on the marginal nervure, commencing near its base and reaching to near the apex, enclosing the stigmal nervure, becoming slightly, gradually widened to shortly beyond the middle, then roundly narrowed, the sides at the apex rounded, the centre transverse; it extends to the top of the apical third. Face closely, finely punctured; the punctures close and regular. Mandibles darker red, brighter in tint at the base. Pro- and mesonotum and scutellum closely punctured; the scutellum with more distinct brassy tints; upper part of basal mesopleuræ strongly, obliquely striated, it forming a triangle, bordered below by a keel; the rest of it

closely, finely reticulated. Propleuræ closely, finely punctured, more or less striated. Metapleuræ finely, closely punctured; there are, on the last femur, about six irregular teeth, the basal three larger and more widely separated; they are as long as the coxæ, which are closely and more finely punctured than the femora.

The male is similar. As is usual with metallic species, the amount of the brassy and rufous tints varies. The fore tibiæ may be testaceous at the base and apex, as well as below. Probably the femoral teeth vary in size and number, as I have noticed to be the case with other species. The apical joints of the antennæ form a not very clearly defined club. The sides of the mesonotum are bounded by a smooth furrow, inside of which is a flatter one, double its width, which again is bordered on the inner side by an irregularly crenulated furrow. The central part is finely rugose, divided into two almost equal parts by a narrow smooth furrow; the apical part is depressed in the middle.

Except for the large alar cloud, this species does not differ from typical *Podagrion*, which have long been known to live in the egg-cases of *Mantis*.

4. PODAGRION BENEFICIUM Girault. Female ; male.

Length, 2.5 mm.; with ovipositor, 5.25 mm.

Dark bright metallic green with æneous and bright bluish tinges, the face brighter green; exserted portion of ovipositor black; antennæ black, excepting the dark metallic scape which is rufous laterad and ventrad but sometimes wholly black or metallic; trochanters, knees, tibiæ and tarsi rufous, the coxæ and femora concolorous with the body, the caudal tibiæ blackish for distal four fifths; distal tarsal joint black, the posterior tarsi often pallid yellowish. Oral area black. Wings hyaline, the venation dusky. Teeth of posterior femora black; immediate base of abdomen more or less slightly rufous especially ventrad at proximal half. Eyes and ocelli concolorous, garnet. Mandibles black at tip. Bright metallic blue especially on the abdomen and legs.

Lateral ocelli their own diameter from the eye margins. Head all over and dorsal thorax densely polygonally sculptured or punctate, the punctures moderate to fine, the abdomen, coxæ and femora polygonally reticulated, the sides of the pro- and mesothorax more roughly so. General suture fine but distinct. Head, antennæ and thorax bearing short, greyish, moderate pubescence; also on the posterior segments of the abdomen and the legs. Posterior femora with six large teeth and a seventh minute one just proximad of the fifth tooth. Metathorax with a conspicuous V-shaped median carina whose apex is at the meson cephalad; the large area cephalo-laterad of each branch of the carina is densely punctate nearly like the scutellum while the mesal area included by the two branches of the carina is the same but also traversed by an irregular, narrow median carina which sends off oblique shoots making the area rugose. Laterad, there are no carinæ excepting a thin longitudinal one a slight distance laterad of the spiracle. The metathoracic spiracle is elliptical and slightly curved at one end, thus subreniform. A fovea is just caudad of it.

Marginal vein of fore wing long but shorter than the submarginal, the postmarginal vein short but longer than the stigmal. Antennæ 13-jointed, with one ring-joint which is distinct; funicle joints shortening distad, the distal two distinctly wider than long, the first two subequal, a fourth longer than wide, each slightly longer than the pedicel; joint 3 quadrate; joints 4 and 5 subequal, slightly wider than long while joints 6 and 7 are subequal, each slightly shorter than joint 5; club long, ovate, much wider than the funicle, its three joints subequal in length and as long as the proximal joint of the funicle. Mandibles dentate.

The male is the same but the funicle joints are all distinctly longer, the club not wider than the funicle or hardly so, its distal joint short; antenna lighter distad and the abdomen differs as it should for this sex in this genus. The proximal funicle joint is nearly twice longer than wide, longer than the second joint and none of the joints of the funicle are wider than long.

Habitat: Gordonvale (Cairns), Queensland. Mantid eggs in forest, July 4, 1912.

Types: No. *Hy 1170*, Queensland Museum, Brisbane, two pairs on separate tags.

Eleven females of *beneficium* reared from a mantid egg case found on an *Eucalyptus* tree in forest at Gordonvale, Queensland, April 12, 1913. Examined from them 21 femora and 20 antennæ. The femoral teeth were six in number 18 times when the formula was from proximad —long, short, long, short, long, long; tooth 4 always distinctly shorter than 5, tooth 2 shortest. Five teeth occurred in one case (asymmetry), the small second tooth absent. Seven teeth occurred in the remaining two cases and were asymmetrical—in one the formula was long, short, long, short, short, long, long (with 2 longer than 5, here extra); in the other the formula was long, short, short, long, short, long, long (with 2 shorter than 5).

In this species six teeth seem usual; the distal two teeth usually about equal in length but the last distinctly broader at base. The twenty antennæ showed no marked variation, the distal two funicle joints always distinctly wider than long, the proximal two longer than wide. Thus, in this genus, the antennal characters seem to be a better specific character than the form and number of femoral teeth, though in the latter the range of variation, perhaps, is not great and a deviation of three or four (as regards number) in either direction from a known formula would be indicative of specific distinctness.

A twelfth female of *beneficium* captured December 2, 1912 by sweeping in forest at Gordonvale showed no antennal variation but asymmetrical development of the femoral teeth, there being six teeth on one of the usual formula and seven on the other, the formula of the latter similar to one of the previous formulæ of this number of teeth.

5. PODAGRION WASHINGTONI new species. Female.

Length, 5. mm., excluding ovipositor.

At once distinguished from *beneficium* Girault by the fact that the posterior femora beneath bear more than seven teeth, the antennæ are reddish brown, the median carina of the propodeum divides at a point at about half way to the middle from base, the rufous femora of the first two pairs of legs, in the distal two funicle joints being slightly longer than wide and in general coloration. Differs from *olenus* Walker in having the first two pairs of femora rufous.

Brassy metallic green, the abdomen (dorsal aspect) with a broad orange yellowish band encircling it just out from (not immediately at) base, ventrad yellow along proximal half or more, the petiole very short, the ovipositor long and brown, the valves black; coxæ dark, fuscous toward tip, the rest of the legs except posterior femora, reddish brown. Venation dusky, the wings hyaline. Antennæ dusky brown, the flagellum uniformly colored, the funicle joints all slightly longer than wide but shortening slightly toward apex in succession, the club joints unequal, the club slightly enlarged. Densely punctate, including the propodeum; the branches of the median carina run nearly laterad ending in the lateral margin and joining it which is carinated (dorsal aspect); several obscure, irregular carinæ from cephalic margin running short distances caudo-laterad, one apparently going into the branch of the median carina. Metallic part of abdomen shining, with a polygonal or scaly sculpture. Knees and tarsi whitish, the posterior tibiæ darker centrally. Posterior femora beneath with nine teeth, the first large and acute, the third, fifth, sixth and seventh smaller, moderate, more or less equal, teeth 2 and 4 smallest, 4 only half the size, or less, of 2; teeth 8 and 9 together forming a large mound-like projection, incised along its tip to form the two teeth, the base of the two more than twice the length of the base of the tooth and proximad near base of the proximal side are two minute pimple-like teeth or projections, rather obscure and not enumerated as distinct teeth.

Habitat: Pentland, Queensland. Forest. January, 1912.

Type: No. *Hy 3317*, Queensland Museum, Brisbane.

Respectfully dedicated to Booker T. Washington.

6. PODAGRION PAX Girault. Female.

Length, 3.10 mm., exclusive of ovipositor, which is longer.

Like *beneficium* Girault but the seven teeth of the posterior femora different; thus teeth 4 and 5 are nearly equal, 4 a little longer, tooth 2 is smallest, while 1, 3, 6 and 7 are longest, 1 acutely, 3 obtusely, conical; all of the teeth distinct. And the segmentation of the antenna is different, the penultimate funicle joint longer than wide, the ultimate subquadrate, the first two funicle joints distinctly more than a fourth longer than wide, nearly twice longer than wide, while joint 3 is subequal to them. The club is large as in species of *Polynema*. Type re-examined. Corrected description.

Habitat: Gordonvale (Cairns), Queensland. From mantid eggs, forest, April 27, 1913.

Type: No. *Hy 3318*, Queensland Museum, Brisbane, the female on a tag, the head and a caudal leg on a slide.

7. PODAGRION PAVO new species.

Female:—Length, 3.20 mm., excluding the exserted part of the ovipositor which is about the same length.

Dark metallic green, the propodeum, hind coxæ and abdomen bluish, the wings hyaline; scape, middle of funicle, venter of abdomen, tibiæ, tarsi, trochanters and knees brownish yellow; rest of antennæ black or nearly. Propodeum with a distinct V-shaped carina whose apex is at base and a carina laterad of the spiracle. Club somewhat enlarged; joints 1 and 2 of funicle subequal, each shorter than the pedicel, a little longer than wide; distal funicle joint over twice wider than long; ring-joint distinct. Hind femur with six teeth—large, small, large, large, large, small from proximad; teeth 3 and 4 longest, subequal. Body with the usual sculpture, the scutellum and axillæ smoother, scaly, the scutellum smooth at apex. Hind femur, mesal aspect, reddish yellow.

Male:—Length about the same.

Totally different in color, very brilliant. Bright metallic green, the antennæ, legs and abdomen (orange) bright yellow; a large oval spot at base of hind coxa laterad and distal fourth or more of abdomen above metallic green. Hind tibiæ reddish brown, black centrally. Hind femur with three large teeth. Antennæ 13-jointed, slenderer, the funicle joints all subquadrate after the first two which are as in the female.

Described from two males, four females on a card labelled "22. Bred from eggcase of Mantis, *Tinodera australiana* Leach. 22 ♀, 2 ♂, 15-3-1903. J. A. K."

Habitat: Melbourne, Victoria.

Types: The above specimens; male and female antennæ and a female hind leg on a slide. In the National Museum, Melbourne.

The species derives its name from the gaudy colours of the male. The host is the common *Tenodera australasiæ* of Leach.

Later, four females were found on a card in the same collection labelled "88. March 19, 1903, Melb." and reared from the same host. The four hind femora of the males showed no variation in the number of teeth and none was found in the female specimens except slight differences in size.

8. PODAGRION GROTII new species.

Female:—Length, 3.50 mm., excluding the very long ovipositor which is over twice the length of the body.

Distinguished from the other Australian species by the extremely long ovipositor. From *beneficium*, which it resembles in color, it differs in having the seventh tooth of the hind femur large, 6 and 7 shortest and subequal, confluent broadly at base; also the median carina of the propodeum does not branch until near the apex of that region (or caudad); the distal two funicle joints are distinctly longer than wide and the first funicle joint is very much longer than the pedicel, joints 1-5 subequal, longest. Distal club joint distinctly shorter than the proximal. From *washingtoni*, it may be distinguished by the forking of the median carina

of propodeum farther caudad in this species, the lesser number of femoral teeth and the different coloration. From *pax* it differs in having the femoral teeth very different and the club not noticeably enlarged.

Male:—The same but the second femoral tooth is very small.

Described from one pair taken from a mantid eggmass on the foliage of *Careya* in forest, near jungle, June 15, 1913 (A. P. Dodd).

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 3319*, Queensland Museum, Brisbane, the above female on a tag, the head and a hind leg on a slide.

Dedicated to Hugo Grotius.

9. PODAGRION BATESI new species.

Female:—Length, 2.50 mm. excluding ovipositor which is extruded for a length equal to that of the body or nearly.

Colored like *beneficium* Girault nearly. Teeth on caudal femur six in number, from proximad, large, small, large, large, large, small; teeth 2 and 6 shortest, subequal, 3 and 4 longest. subequal. Pedicel somewhat longer than funicle 1; funicles 1-3 quadrate, subequal, 4 wider than long, a little longer than 5, 6 or 7 which are subequal, distinctly wider than long. Club two thirds the length of the funicle.

Differs from *beneficium* Girault in bearing but six teeth on hind femur, in having the scutellum smoother at apex, the propodeum uniformly punctate, the distal four funicle joints wider than long, the wholly brown antenna. Median carina of propodeum V-shaped, diverging widely from base (cephalad).

Differs from *pavo* in the different color of the male, in not having the mesal surface of hind femur reddish brown, in having the antennæ wholly brownish and so on. From *pax* in lacking a minute tooth dorsad at proximal third of hind tibia, in not having the scutellum uniformly sculptured to apex, in having the propodeum between the arms of the median carina sculptured with dense punctures not rugulose; also in the shorter distal funicle joints.

The single specimen of the male was lost just before describing it but the male is colored much like the female except that the abdomen bears much rufous dorsad. The teeth on the hind femur were not seen.

From a single specimen taken from a mantid eggcase, April 19, 1914 (A. P. Dodd).

Habitat: Cloncurry, Queensland.

Type: No. *Hy 3320*, Queensland Museum, Brisbane, the specimen on a tag.

Dedicated to Henry Bates.

10. PODAGRION HYALINA (Girault). Female.

Podagrionella hyalina Girault.

Length, 2.20 mm., excluding ovipositor which is black and longer than the body.

Dark metallic green, the wings hyaline. Venter of abdomen and the legs, excepting coxæ and the posterior femora, reddish brown, the coxæ concolorous, the caudal femora with more or less metallic green. Antennæ fuscous, the scape metallic toward tip. Posterior femora with eight teeth, the third one minute, barely indicated, the others distinct, the first longest. Distal funicle joints wider than long, the club enlarged, deep black. Petiole of abdomen very short. Propodeum without lateral carinæ, the median carina V-shaped from base, each arm running meso-caudad. Stigmal vein very short. Postmarginal vein only somewhat longer than the stigmal. Scutellum glabrous at apex.

Type re-examined.

Habitat: Longreach, Queensland.

Type: I. 1256, South Australian Museum.

GENUS PACHYTOMOIDELLA Girault.

This genus differs from *Podagrion* Spinola in having the club solid and enlarged, the distal four funicle joints transverse, the club as long as the funicle. The scutellum lacks the cross-suture before apex and the postmarginal vein is only a little longer than the stigmal. Corrected description.

1. PACHYTOMOIDELLA MAGNICLAVUS Girault. Female. Genotype.

Length, 3 mm., exclusive of ovipositor which is not quite as long as the body.

Metallic æneous green, the venter of abdomen, the tibiæ, the scape, pedicel and funicle, brown; club and valves of ovipositor black. Wings hyaline, the postmarginal vein short but nearly twice longer than the stigmal. Posterior femora beneath with seven large teeth. Polygonally sculptured. Median carina of metathorax and propodeum divided just out from origin, then diverging. Scutum rougher, punctured. Antennæ 11-jointed, the club large and ovate as in *Polynema*, as long as the funicle whose first joint is longest, subquadrate, the distal four funicle joints more than twice wider than long.

Habitat: Gordonvale (Cairns), Queensland. Jungle, April 5, 1913.

Type: No. *Hy 3321*, Queensland Museum, Brisbane, the female on a tag.

GENUS PACHYTOMOIDES Girault.

Differs from *Podagrion* Spinola in lacking a ring-joint in the antennæ; the sculpture of the scutellum at apex is abruptly smoother indicating the cross-suture.

1. PACHYTOMOIDES MIRUS Girault. Female. Genotype.

Length, 5 mm., excluding the long, slender and curved ovipositor which is fully 7 mm. long. (*See* the third species.)

Bright metallic green, the propodeum and head metallic bluish, the abdomen red except broadly at base above, the fore and intermediate legs brown including their coxæ, the posterior legs reddish brown at the knees, tarsi, tips of tibiæ, proximal two thirds of the swollen femur and distal third of the long subtriquetrous posterior coxa. Ovipositor very thin, fuscous, its valves black. Fore wings irregularly, lightly stained with brownish, the venation black. Eyes red, the ocelli darker red. Antennæ with the scape and pedicel brown, the remaining joints black. Head and thorax very finely reticulately punctate; abdomen tapering at base but not petiolate, strongly compressed. Ocelli distant from the eyes. Propodeum with larger reticulate punctures, its dorsum rounded, without a median carina. Postmarginal vein twice the length of the stigmal, the marginal very long, not much shorter than the submarginal. Distal fourth of scutellum and the mesopostscutellum smooth but finely closely polygonally reticulated. Proximal abdominal segments with very minute pin-punctures, the distal segments glabrous. Posterior coxa sculptured like the postscutellum, the posterior femur beneath armed with nine large, black, unequal teeth, the first (proximal), eighth and ninth largest, the latter stoutest, triangular, tooth 8 longest, columnar, the seventh next to the shortest, paired, that is a bidentate erect plate, the two dentations here counted as separate teeth though united at base, the two teeth equal; teeth 4 and 5 unequal, also more or less united at base, tooth 2 shortest, obtuse, nipple-like.

Antennæ inserted in the middle of the face, 13-jointed, the funicle filiform but its distal joint widening somewhat, becoming wider than long; scape simple, not as long as the club; pedicel somewhat longer than the first funicle joint; joint 2 of funicle longest, joint 3 next, the distal joint shortest; joint 5 subequal in length to the pedicel, the following funicle joints all shorter; club joints nearly equal, the distal one slightly the longest. Propodeum at apex carinated (a semicircle). Stigmal vein with a very short neck. Joints 2 and 3 of tarsi slender.

Habitat: Brisbane, Queensland. May 20, 1911 (H. Hacker).

Type: No. *Hy 1191*, Queensland Museum, Brisbane, the female minutien-mounted, the antennæ and a hind femur on a slide.

2. PACHYTOMOIDES QUEENSLANDICA Girault. Female.

Length, 4 mm., not including the ovipositor which is fully as long as the body.

At once differing from *mirus* in bearing eight teeth along the posterior femur of which the first, fourth, sixth and seventh are largest, the eighth with a very broad base, its distal side a long incline; teeth 2 and 5 subequal, 3 a little shorter, all distinct. Antennæ yellow-brown, the club dark. Propodeum concolorous; first two legs wholly honey yellow, the posterior one purplish black, except tarsi, tips of tibiæ and the knees. Abdomen honey yellow except above just at base and along distal half; thus in general encircled by a broad band of yellow; valves of ovipositor black. Propodeum umbilico-rugoso-punctate, without carinæ dorsad, much rougher than the dense, fine punctation of the rest of the thorax. Teeth of mandibles fine, three of them distinct. Distal three funicle joints wider than long, the club as long as the funicle.

Habitat: Gordonvale (Cairns), Queensland. Jungle, May 8, 1913.

Type: No. *Hy 3322*, Queensland Museum, Brisbane, the female on a tag and a slide with the head and a hind femur.

3. PACHYTOMOIDES FRATER new species.

Female:—Length, 3.85 mm., excluding the ovipositor which is a little longer than the body.

Very similar to *mirus* but at once distinguished from that species by bearing on the abdomen at apex of proximal two thirds a distinct black, rather narrow encircling band (except across venter; in *mirus* there is a large crescent-shaped spot of black in the lateral aspect at about the same distance from base). Also, the caudal femur bears but seven teeth, the first, sixth and seventh largest, 6 longest, columnar, 3 smallest, 2 next so, none paired. The distal two funicle joints are wider than long, joints 2 and 3 longest, subequal, 4 only a little shorter than 3; flagellum brown suffused with dusky, the club jet black. Otherwise about as in *mirus*. Compared with type of latter.

From one female caught in forest on sand-ridges near coast, May 8, 1913 (A. P. Dodd).

Habitat: Chindera (Tweed River), New South Wales.

Type: No. *Hy 3323*, Queensland Museum, Brisbane, the specimen on a tag; flagellum and a caudal femur on a slide.

MEGASTIGMINÆ.

There is an undescribed genus in this group like *Megastigmus* but the male antennæ are very slender and with whorls of hairs. I was unable to obtain the female with certainty. Most of the genera bear, perhaps, two ring-joints, the first very short.

GENUS NEOMEGASTIGMUS Girault.

This genus is like *Spilomegastigmus* Cameron but the mandibles tridentate, the antennæ 13-jointed, the club distinctly 3-jointed; one large ring-joint. Fore wings usually with a black spot appended from the stigmal vein. Scutellum simple, uniformly sculptured.

1. NEOMEGASTIGMUS LIVIDUS new species. Female. Genotype.

Length, 2 mm., excluding ovipositor which is extruded for a length somewhat over that of the abdomen.

Black-blue, the legs (except the concolorous coxæ) and the tegulæ yellowish white, the antennæ similarly colored. Wings hyaline, the stigma darker than the spot beneath it. Thorax scaly but the lines more or less transverse. Valves of ovipositor brown-black. Propodeum rugulose, without a median carina. Posterior coxæ sculptured like the thorax,

bearing also sparse, long, yellow-white hairs, the upper sides of the propodeum also thus clothed. Scape subobclavate, the pedicel longer than any of the funicle joints of which the first three are longest and subequal, the distal one plainly wider than long.

Habitat: Gordonvale (Cairns), Queensland. Associated with a cecidomyiid gall on *Careya australis.*

Type: No. *Hy 3324,* Queensland Museum, Brisbane, the female on a tag.

2. NEOMEGASTIGMUS COLLARIS new species. Female.

Length, 1.35 mm., excluding the ovipositor which is extruded for a length about equal to that of the abdomen.

Like *lividus* but the ovipositor is extruded for a shorter distance and the pronotum is pale orange; also the legs are whiter. Head dark orange yellow. Abdomen subsessile.

Habitat: Thursday Island, Torres Strait. Forest in March.

Type: No. *Hy 3325,* Queensland Museum, Brisbane, the female on a tag and a slide.

3. NEOMEGASTIGMUS PETIOLATUS new species. Female.

Length, 1.95 mm., excluding the black extruded valves of the ovipositor which are about two thirds the length of the abdomen.

Orange yellow, the abdomen (its short, distinct petiole pallid), propodeum and distal third of scutellum lightly purplish black. Fuscous spot from stigma large, nearly a band across the wing. Caudal margins of segments 2-4 of abdomen incised at meson, the incision large, wide on segment 2, minute on segment 4. Cephalic legs (femur and distad) pale, the others concolorous with the abdomen but all tarsi pale, the antennæ straw yellow. Funicle joints all shorter than the pedicel. Thorax densely reticulated and transversely lineolated.

Habitat: Mackay, Queensland. Open fields in October.

Type: No. *Hy 3326,* Queensland Museum, Brisbane, the female on a tag.

A second female from the foliage of *Tristania,* September 3, 1913 at Gordonvale (Cairns), Queensland (E. J. Girault).

4. NEOMEGASTIGMUS FILIUS new species. Female.

Length, 2.50 mm., excluding extruded part of ovipositor which is a little longer than the abdomen.

Like *collaris* but much more robust, the ovipositor longer than the abdomen and the legs differ in that the coxæ and the hind femora are brown. The nearly black dash from the stigma is longer and somewhat curved. The proximal funicle joint in this species is plainly longer than wide, 1-3 subequal, the others shortening somewhat, the distal funicle joint a little longer than wide. Pedicel slightly longer than the distal funicle joint. In *collaris* all the distal funicle joints are subquadrate, barely longer than wide and distinctly shorter than the pedicel, the distal funicle joint a little wider than long. The caudal margin of the pronotum in both species is concolorous with the scutum.

Habitat: Gordonvale (Cairns), Queensland. December 19, 1911.

Type: No. *Hy 3327,* Queensland Museum, Brisbane, the female on a tag, the head with the slide type of *collaris.*

5. NEOMEGASTIGMUS SALTENSIS new species. Female.

Length, 1.50 mm., excluding ovipositor.

Like *lividus* Girault but the femora also concolorous and the extruded portion of the valves of the ovipositor are slightly shorter than the abdomen. Funicle joints 1-4 subequal, each barely longer than wide, the remaining widening and shortening a little in succession, joint 7 a little wider than long. Scutellum simple as with the other species. Propodeum not plainly seen. Pedicel distinctly longer than any of the funicle joints.

From one female captured in a forest pocket, September 12, 1913 (A. P. Dodd).

Habitat: Kuranda, Queensland.

Type: No. *Hy 3328,* Queensland Museum, Brisbane, the female on a tag, the head on a slide.

6. NEOMEGASTIGMUS VARIUS new species.

Female:—Length, 1.60 mm., excluding ovipositor which is extruded for a length equal to a little over half the abdomen.

Like *petiolatus* but the propodeum, head and first pair of legs are orange yellow, the cephalic tibiæ and all tarsi white. Thorax wholly orange yellow. Scape pallid. Pedicel longer than any funicle joint. Funicle 1 quadrate, smallest, 3 longest, somewhat longer than wide, 7 somewhat wider than long. Caudal margin of segment 2 of abdomen naked and with a very narrow incision at meson, the others entire. Propodeum about as in *petiolatus* and *rufithorax.* Fore wing marked as in *rufithorax* but the marking not as large and not so deep in color.

From one female caught in forest, December 1, 1913.

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 3329,* Queensland Museum, Brisbane, the specimen on a tag, the head on a slide.

7. NEOMEGASTIGMUS RUFITHORAX new species.

A little more robust than *petiolatus*; distal half of scutellum, distal half of axillæ and the cephalic legs (except the white tibiæ) purplish black and sides and venter of thorax. Caudal edge of segment 3 of abdomen naked, not armed with minute setæ as in *petiolatus.* Segment 4 of abdomen not incised. Occiput and venter black. In both species the propodeum bears numerous rugæ from cephalic margin and there are nó distinct median nor lateral carinæ but a half complete lateral carina from caudal apex. A small, dark spot between caudal margin of fore wing and the caudal end of the stigmal stripe.

From one female caught in forest on sand ridges near coast, May 13, 1914 (A. P. Dodd).

Habitat: Chindera (Tweed River), New South Wales.

Type: No. *Hy 3330,* Queensland Museum, Brisbane, the specimen on a tag.

The black color in this species is very deep.

A. NEOMEGASTIGMUS RUFITHORAX NELSONENSIS new variety.

The same but scutellum wholly orange yellow, the caudal edge of segment 2 of abdomen is armed with short setæ, the body a little less robust.

From one female caught in forest.

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 3331,* Queensland Museum, Brisbane, the specimen on a tag with type of the type form.

8. NEOMEGASTIGMUS HYALINUS new species.

Female:—Length, 1.75 mm., excluding the ovipositor which is extruded for a length nearly equal to that of the abdomen.

Metallic blue green, the thorax transversely lined, the wings hyaline; knees, tibiæ and tarsi pale lemon yellow; abdomen black blue except at base. Antennæ black blue, the pedicel and funicle 1 subequal, distinctly longer than wide; funicles 2 and 3 subequal, a little longer than wide; funicles 6-7 subequal, a little wider than long. Propodeum and head densely scaly, the former noncarinate. Abdomen delicately scaly except segment 2 which is incised caudad at meson (segment 3 slightly so). Scutellum densely polygonally scaly. Otherwise as in the other species.

From one female, May 12, 1914 caught in forest (A. P. Dodd).

Habitat: Chindera, New South Wales.

Type: No. *Hy 3332,* Queensland Museum, Brisbane, the specimen on a tag.

9. NEOMEGASTIGMUS AURITIBIÆ new species.

Female:—Length, 2.30 mm., excluding the ovipositor which is extruded for a length equal to three fourths that of the abdomen.

Agrees with the description of *hyalinus* but the scape is reddish brown at ventral half and funicle 1 is distinctly longer than the short pedicel which is no longer than wide; funicle 1 distinctly longer than wide, the following joints a little longer than wide, shortening slightly in succession distad. Propodeum dorso-laterad, about ventral half of the face, sides of abdomen (distal half) and upper hind coxæ, with rather coarse silvery pubescence.

From one female caught in forest, September 2, 1914.

Habitat: Capeville (Pentland), Queensland.

Type: No. *Hy 3333*, Queensland Museum, Brisbane, the specimen in alcohol with type *Atoposoma unguttatipes* Girault.

TABLE TO THE AUSTRALIAN SPECIES OF *NEOMEGASTIGMUS* GIRAULT.

Fore wings without a substigmal spot .. .. .. The species *hyalinus* and *auritibiæ*.

Fore wings with a substigmal spot.

Wholly black-blue.

Legs (except coxæ) and antennæ white or nearly (caudal femur a little dusky) .. .. *lividus* Girault.*

The same but femora and coxæ concolorous .. .. *saltensis* Girault.

Black-blue, the pronotum (except caudal margin) and head orange-yellow.

Funicle joints subquadrate.

Ovipositor extruded for a length equal to that of abdomen; legs pale .. *collaris* Girault.

Ovipositor extruded for a length longer than that of the abdomen; coxæ and the hind femora brown .. .. *filius* Girault.

Orange-yellow.

Abdomen, propodeum and distal third of scutellum purplish black; hind legs blackish .. *petiolatus* Girault; see *varius* Girault and *rufithorax* Girault.

GENUS MEGASTIGMUS Dalman.

Synonym: *Xanthosomoides* Girault.

Subgenera: *Megastigmus* Dalman, *Bootanomyia* novum, *Paramegastigmus* novum and *Epimegastigmus novum.*

SUBGENUS MEGASTIGMUS Dalman.

1. MEGASTIGMUS DRANCES Walker. Female.

Walker, 1839, p. 5.

" Sp. 1. Meg. Drances. Fem. *Fulvus nigro-varius, antennae nigrae basi fulvae, oviductus vaginae abdomine multo longiores, pedes fulvi, alae limpidae.*

Fulvus, sub-nitens, scite punctatus, fere glaber: capitis vertex niger: os flavum: oculi et ocelli rufi: antennae nigrae; articulus 1^us^ fulvus: thorax nigro per medium vittatus; meta-

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* *badius* new variety. *Female:*—Length, 1·50 mm., excluding ovipositor. Smaller than the type form and chocolate brown, the legs white except the brown coxæ and the slightly embrowned hind femur (the latter somewhat blackish in the type form). Also, the substigmal spot is distinctly smaller, barely larger than the stigmal knob. Tegulæ white. In the type form the substigmal marking is conspicuous and distinctly larger than the stigmal knob.

Reared at Gordonvale, Queensland, with the type form from cecidomyiid galls on tea-tree leaves, September 1, 1912. No type. The galls were pustular, reddish, subsetiform, solitary or in irregular groups on the surface of the foliage.

thorax niger: abdomen laeve nitens: segmenta basi nigra: oviductus fulvus: vaginae nigrae, hirtae, abdomine multo longiores: pedes fulvi; coxae piceae; tarsi apice fusci; metafemora subtus piceo maculata: alae limpidae; squamulae fulvae; nervi fusci, basi pallidiores; stigma piceum, rotundum, sat magnum. (Corp. long. lin. $1\frac{1}{3}$; lin. $2\frac{1}{2}$.)''

Habitat: Hobart, Tasmania.

Type: Probably in the Natural History Museum, London.

2. MEGASTIGMUS BORUS Walker. Female.

Walker, 1839, pp. 5-6.

'' Sp. 2. Meg. Borus. Fem. *Flavus fulvo et piceo varius, antennae piceae basi fulvae, metathorax niger, oviductus vaginae abdomine non longiores, pedes flavi, alae limpidae.*

Flavus, sub-nitens, scite punctatus, fere glaber: caput postice nigrum; vertex fulvus: oculi et ocelli rufi: antennae piceae; articulus 1^{us} fulvus: thoracis segmentorum disci fulvi; suturae piceae: metathorax niger: abdomen laeve, nitens; discus piceus, fulvo-fasciatus: oviductus fulvus; vaginae nigrae, hirtae, abdomine non longiores: pedes flavi; tarsi apice fusci: alae limpidae; squamulae flavae; nervi fusci, basi pallidiores; stigma piceum, rotundum, sat magnum. (Corp. long. lin. $1\frac{1}{3}$; alar. lin. $2\frac{1}{2}$.)''

Habitat: Hobart, Tasmania.

Type: Probably in the Natural History Museum, London.

3. MEGASTIGMUS IAMENUS Walker. Female.

Walker, 1839, p. 6.

'' Sp. 3. Meg. Iamenus. Fem. *Fulvus piceo varius, antennae piceae basi fulvae, oviductus vaginae corporis longitudine, pedes fulvi, alae limpidae.*

Fulvus, subnitens, scite punctatus, fere glaber: oculi et ocelli rufi: antennæ piceae, basi fulvae: thoracis segmentorum suturae piceae: abdominis discus piceo fasciatus: oviductus fulvus; vaginae nigrae, hirtae, corporis longitudine: pedes fulvi; tarsi apice fusci: alae limpidae; squamulae fulvae; nervi fulvi; stigma piceum, rotundum, magnum. (Corp. long. lin. 1; alar. lin. $1\frac{3}{4}$.)''

Habitat: Hobart, Tasmania.

Type: Probably in the Natural History Museum, London.

Ashmead (1900) makes the following statement concerning this species: '' Hab.—Sydney, N.S.W. Of this species Mr. Froggatt has sent one ♀, bred from galls of *Brachyscelis pileata* and 4 ♀ specimens from a globular gall on *Eucalyptus*. The latter are considerably larger than the dimensions of the species as given by Walker but otherwise seem to agree well with his description and with the smaller form bred from *B. pileata*.''

4. MEGASTIGMUS ASTERI Ashmead. Female; male.

Length, 3-4 mm.; ovipositor as long as the body, brownish yellow; smooth and shining except some delicate transverse striae on vertex, mesonotum and within the femoral impression on the mesopleurum; body clothed with some sparse black and white hairs. Metapleura with long white hairs; sutures of scutellum and metathorax, anterior margin of scutum, mesosternum, bands on dorsum of abdomen and ovipositor valves black or brown black. Antennae brown black; scape and pedicel brownish yellow; first five joints of funicle about twice as long as wide; seventh joint very little longer than wide.

The males measure from 1.8 to 2 mm. and are like the females in color but there is a dusky spot on the vertex inclosing the ocelli; the occiput, a band on anterior margin of mesonotum and metathorax black; flagellum light, the funicle joints scarcely one and a half times longer than wide.

Habitat: Sydney, New South Wales. Associated with a dipterous gall on *Aster ramulosus*.

Type: Cat. No. *4878*, United States National Museum, Washington, D.C., U.S.A.

5. MEGASTIGMUS BRACHYSCELIDIS Ashmead. Female; male.

Length, 2 mm. Black or dark brown; ovipositor a little shorter than the body; orbits broadly, lower part of face, pronotum, parapsides and sometimes the scutum, axillæ, a transverse line back of scutellum, mouth parts except teeth of mandibles and legs (except hind coxæ), pale yellowish. Abdomen paler beneath and at apex. Antennæ brown, scape pale beneath, flagellum subclavate, first joint of funicle about one and a half times longer than wide, the following joints gradually shortening, joint 7 a little wider than long. Stigma and venation brown; wings hyaline. Vertex and mesonotum delicately transversely striate, the scutellum and metanotum delicately shagreened.

The male measures 1.80 mm. Black, shining; orbits and face ventrad of antennæ, a transverse band on hind margin of pronotum, parapsides caudad, mesal suture of axillæ, extreme tip of abdomen and the legs (except the hind coxa), yellowish. Antennæ brown, the funicle joints scarcely longer than wide. Wings hyaline, stigma and venation brown-black.

Habitat: Sydney, New South Wales. Associated with *Brachyscelis erista* Olliff.

Type: Cat No. *4879*, United States National Museum, Washington, D.C., U.S.A.

6. MEGASTIGMUS SULCICOLLIS Cameron. Female.

Length, 1-2.50 mm.

Yellow; mesonotum, scutellum and abdomen tinged with fulvous, legs paler; flagellum darker, more fulvous, the apices of the joints narrowly black; wings hyaline, venation testaceous, the stigma long-conical. Tips of mandibles and ovipositor valves black. Extruded portion of ovipositor as long as the body. Smooth; thorax finely, closely transversely striated; a narrow, transverse furrow before the middle of pronotum and a shorter, wider, more distinct one at the apex. Thorax (except propodeum) sparsely clothed with longish, black hairs; propodeum more coarsely striated than the thorax. Base of mesonotum, base and sides of scutellum and of propodeum, the sides of the latter more broadly, base of the parapsidal furrows and the depressions at the sides of the mesonotum, black.

Habitat: Richmond, New South Wales. Associated with galls on kurrajong.

Type: Query.

7. MEGASTIGMUS MACULATIPENNIS (Girault). Female. Genotype of **XANTHOSOMOIDES.**

Length, variable but about 2.50 mm. excluding ovipositor, the exserted portion of which is about three fourths the length of the body.

Pale cadmium yellow, the head, pronotum, legs and a transverse spot laterad of the mesopostscutellum (the spot cephalad of the propodeal spiracle) contrasting, lighter lemon-yellow; also more or less, the produced part of the ventral abdomen. Lateral suture of scutellum, the visible (dorsal, lateral) portions of the occiput and the cephalic margin of the propodeum, black. Dorsal aspect of abdomen suffused irregularly with brown. Venation black. Fore wings hyaline, the globe-like stigmal spot black. Discal ciliation normal and dense, the marginal cilia very short. Antennae yellow suffused with much black. Ovipositor brown, the valves black. Thorax delicately, transversely wrinkled. Funicle 1 widening distad, nearly twice longer than wide at apex. Scape yellow, black above. Lateral ocelli distant from the eye margins. Face subquadrate, wide. Propodeal spiracle elliptical. Funicle joints not much longer than wide, a little longer than the pedicel. Postmarginal vein nearly as long as the marginal. Abdomen sessile. Club 3-jointed. Propodeum noncarinate. Corrected description. Type re-examined.

Habitat: Brisbane, Queensland. Reared from galls.

Type: No. *Hy 1192*, Queensland Museum, Brisbane, the female on a card.

8. MEGASTIGMUS TASMANIENSIS Girault. Female.

"A Tasmanian species, black with a yellow collar, was labelled 'Reared from larvæ of flies attacking *Helichrysum scorpioides*. R. A. Black.' They were accidentally destroyed.

However, the collar and the legs (except coxæ) and the lower third of the face, lemon-yellow. Antennæ brownish, the first funicle joint only a third longer than broad.''

Type: I. 1257, South Australian Museum, one slide with posterior legs, antennæ and two heads.

9. MEGASTIGMUS LONGICAUDA Girault. Female.

Length, 2.85 mm., excluding ovipositor.

Like *Epimegastigmus fulvipes* but much less robust, the ovipositor greatly lengthened, distinctly much longer than the whole body. The first funicle joint twice longer than broad, subequal to the pedicel, the second somewhat shorter. Pedicel long.

Habitat: Port Lincoln, South Australia.

Type: I. 1258, South Australian Muesum.

10. MEGASTIGMUS FUSCICORNIS Girault.

Length, 2.40 mm., exclusive of ovipositor, which is distinctly shorter than the body.

Like *maculatipennis* but the propodeum black, the pedicel of the antenna short and equal to the first funicle joint, which is about a fourth longer than wide at apex, subequal to funicle 2; also the ovipositor is shorter.

Habitat: Burnie, Tasmania.

Type: I. 1259, South Australian Museum.

11. MEGASTIGMUS SPECIOSUS new species. Female.

Length, 2 mm., excluding the ovipositor which is extruded for a length somewhat longer than that of the abdomen.

Variegated; valves of ovipositor black. Head all black except the orange vertex and upper half of face; pronotum lemon-yellow; mesonotum orange-yellow; sides and venter of thorax, the whole of the propodeum, cephalic margin of scutum and three dorsal, rather broad cross-stripes on abdomen (not including a little black across base) black, the abdominal stripes central, occupying the surface except at either end. Legs pale yellow, the wings hyaline, the antennæ missing. Mandibles tridentate, the scutellum with a cross-furrow. Proximal stripe of abdomen longest, closer to base than the distal stripe is to apex. Otherwise yellow.

Habitat: Gordonvale (Cairns), Queensland. Jungle, July 24, 1913 (A. P. Dodd).

Type: No. *Hy 3335*, Queensland Museum, Brisbane, the above specimen on a tag.

12. MEGASTIGMUS FLAVIVARIEGATUS new species. Female.

Length, 1.35 mm., excluding ovipositor which is exserted for a length somewhat over that of the abdomen.

Pale lemon-yellow, the vertex suffused with orange, the mesonotum deep orange; a little less than the basal half of the abdomen washed with dusky. Wings hyaline. Thorax along side of each axilla and the scutellum deep black. Cephalic and caudal margins of propodeum black. Antennæ with the pedicel distinctly longer than any of the funicle joints, all of the latter a little wider than long and subequal in length, the distal joints a little wider. Prepectus and the sutures of lateral thorax black.

Described from a female captured by sweeping in the jungle, June 7, 1913 (A. P. Dodd).

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 3336*, Queensland Museum, Brisbane, the female on a tag and a slide with the head.

13. MEGASTIGMUS EUCALYPTI new species.

Female:—Length, 2.25 mm., exclusive of ovipositor which is extruded for a length somewhat over half that of the body.

Very similar to *Epimegastigmus fulvipes* but much less robust and there is a transverse orange-yellow spot on each side of meson of propodeum near cephalic margin; the pronotum,

moreover, is lemon-yellow, the dorsum of abdomen bears several more or less suffused black stripes on proximal half. Sutures of mesonotum narrowly black. Scutellum without longitudinal grooves or these are very faint. Mesothoracic venter black. Flagellum black; funicle 1 a little shorter than the pedicel, 1 somewhat longer than wide. Distal funicle joint a little wider than long. Sometimes, the propodeum is wholly black. Head lemon-yellow.

From three females reared from galls on young *Eucalyptus*, November 21, 1910 (F. P. Spry) and labelled Nos. 1 and 2. From the National Museum at Melbourne.

Habitat: Melbourne, Victoria.

Types: In the National Museum, Melbourne, Victoria. Three females on a card.

14. MEGASTIGMUS FIELDINGI new species.

Female:—Length, 1.46 mm., excluding the ovipositor which is three fourths the length of the abdomen.

Runs to *asteri* Ashmead but the ovipositor is somewhat shorter, funicle 1 is quadrate or only slightly longer than wide, longest, while the general body color is orange yellow with the head, pronotum, margins of scutum and scutellum lemon yellow. Sutures of scutellum, cephalic margin of scutum and of propodeum (both narrowly) and the valves of the ovipositor, black; also a spot in the suture just cephalad of hind coxa. Four or five dusky cross-stripes dorsad on abdomen. Antennæ yellow.

What appears to be the male is much more heavily marked with black but with the same pattern except that the parapsidal furrows are also black.

From many females reared from miscellaneous galls, forest, Gordonvale, October 15, 1913.

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 3337*, Queensland Museum, Brisbane, two females on a tag.

15. MEGASTIGMUS ADELAIDENSIS new species.

Female:—Like *maculatipennis* Girault but the propodeum wholly concolorous, the abdomen with about two black cross-stripes.

Habitat: Adelaide, South Australia. Reared from a gall.

Type: Lost.

16. MEGASTIGMUS MELLEUS new species.

Compared with types of *maculatipennis* and *flavivariegatus*.

Female:—Length, 1.65 mm., excluding the ovipositor which is extruded for a length equal to that of the abdomen.

Runs to *maculatipennis* Girault but the body is smaller, the abdomen more rounded, the extruded part of valves of ovipositor much shorter, the body is uniformly honey yellow only the scutum and scutellum slightly tinged with orange. The abdomen is marked with four distinct black dashes across and along meson and the proximal two thirds of abdomen dorsad and the extruded valves of ovipositor are black. The fore wing is characterized by bearing a subfuscous, round spot of rather small size from apex of the black stigma. Scape and pedicel orange, rest of antennæ dusky yellow. Funicle joints shorter than the pedicel, 3 or 4 longest, each a little longer than wide and nearly as long as the pedicel, the others barely longer than wide. Scape obclavate. Scutellum with a line of three long setæ along each side.

From one female caught in jungle, July 11, 1914.

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 3338*, Queensland Museum, Brisbane, the specimen on a tag with type of *flavivariegatus* Girault.

17. MEGASTIGMUS PERGRACILIS new species.

Female:—Length, about 1.90 mm., excluding the ovipositor which is extruded for a length nearly equal to that of the abdomen.

Pale greenish yellow, the wings hyaline, the following black markings: Suture between pronotum and scutum, that between scutum and scutellum, that between scutellum and axillæ.

that between postscutellum and propodeum, a small area just mesad of wing insertions, cephalic margin of propodeum rather narrowly but more broadly than the suture just preceding it; apex of propodeum dorsad centrally; a narrow line down propodeum in the usual position of a lateral carina and a still narrower one farther laterad (dorso-lateral); neck of pronotum at apex above; a spot just dorso-cephalad of caudal coxa and a dot just dorsad of middle coxa; and four rather stout stripes across dorsum of abdomen, all confluent along the meson, a fifth stripe represented by a mesal round area just distad of the fourth; and valves of ovipositor. Funicle joints very gradually shortening distad, the first a little the longest, slightly or barely longer than wide, subequal to the pedicel. Funicle and club dusky yellow. Scutum, parapsides, axillæ and scutellum suffused with orange.

From one female caught in forest, September 28, 1914.

Habitat: Capeville (Pentland), Queensland.

Type: No. *Hy 3339*, Queensland Museum, Brisbane, the specimen in alcohol with type *Atoposoma unguttatipes* Girault.

18. MEGASTIGMUS QUADRIFASCIATIVENTRIS new species. Female.

Length, 1.70 mm., excluding ovipositor which is somewhat longer than the abdomen. Greenish yellow, the mesonotum orange yellow. The following black markings: A loop over center of occiput, cephalic margin of scutum, meson of propodeum very broadly and a very narrow line along in the position of a lateral carina, suture between pro- and mesopleurum and four distinct stripes across the abdomen, the first two rather close together at proximal fourth, 3 a little proximad of middle, 4 somewhat distad of middle. Flagellum dusky, the pedicel longer than any of the funicle joints of which the longest (joint 1) is subquadrate. Wings hyaline.

Described from one female captured with *pergracilis*.

Habitat: Capeville (Pentland), Queensland.

Type: No. *Hy 3340*, Queensland Museum, Brisbane, the female in alcohol with type *pergracilis*.

TABLE TO THE AUSTRALIAN SPECIES OF *MEGASTIGMUS* DALMAN AND OF *EPIMEGASTIGMUS* GIRAULT.*

FEMALES.

(*Ovipositor* means extruded portion.)

I. Black or brown-black species.

Ovipositor a little shorter than the body; orbits broadly, lower face, pronotum, parapsides, scutum (sometimes), axillæ, a transverse line back of scutellum, mouth parts and legs (except hind coxæ), pale yellowish. Funicle 1 about one and a half times longer than its width .. .. *brachyscelidis* Ashmead.

Black; pronotum, lower face and legs except coxæ, lemon yellow; antennæ brownish; funicle 1 only a third longer than wide .. .. *tasmaniensis* Girault.

II. Yellow species.

1. Ovipositor distinctly longer than the body.

Like *fulvipes* but less robust; funicle 1 twice longer than wide, subequal to the rather long pedicel .. .. *longicauda* Girault.

2. Ovipositor no longer than the body usually shorter.

Head yellow.

Propodeum wholly black or nearly so.

Deep orange yellow; pronotum with the caudal margin narrowly lemon yellow followed by a narrow stripe of jet black across cephalic margin of scutum; meson of

* Excluding two species of the latter which see.

thoracic venter black; face lemon yellow. Funicle 1 more than twice longer than wide. Abdomen not at all or but obscurely marked. Robust. Sutures of mesonotum not black. Scutellum with a narrow median and lateral longitudinal groove. Ovipositor distinctly longer than the abdomen .. .. (*Epimegastigmus*) *fulvipes* Girault.

The same but much less robust and there is a transverse yellow spot on each side of meson of propodeum cephalad; pronotum lemon yellow; dorsum of abdomen with several suffused blackish stripes across proximal half; scutellum without noticeable longitudinal grooves; sutures of mesonotum narrowly black. Funicle 1 somewhat longer than wide. Flagellum black .. .. *eucalypti* Girault.

Yellow; occiput, antennæ except scape, sutures of thorax and disk of abdomen black or piceous. Vertex and disk of thoracic segments orange yellow (fulvous); ovipositor no longer than the abdomen .. .. *borus* Walker.

Orange yellow (fulvous); vertex, flagellum, stripes on middle of thorax and proximal abdomen black or piceous. Ovipositor much longer than the abdomen. Mouth yellow. Middle femora feebly spotted with black .. .. *drances* Walker.

Orange yellow, the head lemon yellow; caudal margin of pronotum narrowly lemon yellow. Pedicel subequal to funicle 1, the latter only about a fourth longer than wide at apex. Ovipositor distinctly shorter than the body. Like *maculatipennis* *fuscicornis* Girault.

Propodeum mostly concolorous.

Sutures of thoracic dorsum black.

Orange yellow. Antennæ piceous; scape orange yellow; abdomen with black cross-stripes. Ovipositor as long as the body. All thoracic sutures black .. .. *pergracilis* Girault; see *jamenus* Walker, *fieldingi* Girault.

Brownish yellow; sutures of scutellum and propodeum, cephalic margin of scutum, mesosternum and cross-stripes on dorsum of abdomen, black. Funicle and club brownish yellow. Funicles 1-5 about twice as long as wide. Ovipositor as long as the body .. .. *asteri* Ashmead.

Yellow; ''mesonotum'', scutellum and abdomen tinged with fulvous. ''Base'' of ''mesonotum'', base and sides of scutellum and propodeum, the sides of the latter more broadly, ''base'' of the parapsidal furrows and the depressions at the sides of the ''mesonotum'', black. Ovipositor as long as the body .. *sulcicollis* Cameron.

Sutures of thoracic dorsum not black; orange yellow.

Propodeum with a black stripe across cephalic margin which continues up to the tegula on each side of scutellum; pronotum paler, its caudal margin narrowly lemon yellow; abdomen with about three cross-stripes of black, more or less suffused. Head lemon yellow. Ovipositor distinctly longer than the abdomen .. *maculatipennis* Girault.

See *flavivariegatus* Girault, *adelaidensis* Girault, *melleus* Girault. *quadrifasciativentris* Girault.

Orange yellow, immaculate; scutellum with a median grooved line. Funicle joints longer than the pedicel, 1 over twice longer than wide. Ovipositor valves black. Robust .. .. (*Epimegastigmus*) *grotiusi* Girault.

Head partly black.

Orange yellow; pronotum and legs lemon yellow; valves of ovipositor, head except vertex and dorsal half of face, sides and venter of thorax, propodeum, cephalic margin of scutum and three dorsal, rather broad cross-stripes on abdomen, black. Ovipositor somewhat longer than the abdomen .. .. .. *speciosus* Girault.

BOOTANOMYIA new subgenus.

Like *Megastigmus* Dalman but the body partly or wholly metallic, frequently with thimble punctures.

1. BOOTANOMYIA SMARAGDUS new species. Female. Genotype.

Length, 1.50 mm., excluding ovipositor which is extruded for a length distinctly longer than that of the abdomen. Similar to *viridiscutellum* Girault but the scutum is almost wholly metallic green, the extreme cephalo-lateral angle showing a trace of yellow (in the species named, the cephalo-lateral angles of scutum are yellow, the green on scutum rectangular, longer than wide, its margins nearly straight cephalo-caudad); the thimble punctures on scutum are more numerous and the abdomen above wholly brownish. The thorax in both species is finely, transversely lineolated; the scutellum distad of the transverse line is glabrous in both and the ocellar area is metallic green with a cephalic projection from each side, forming a crude U on the vertex. Scape and pedicel in both colored above. The antennæ are alike but *smaragdus* apparently bears two ring-joints, while *viridiscutellum* bears but one. Compared with type of the named species.

Habitat: Roma, Queensland. October 6, 1911.

Type: No. *Hy 3341*, Queensland Museum, Brisbane, the female on a tag, the head on a slide.

2. BOOTANOMYIA PAX new species. Female.

Length, 1.33 mm., excluding ovipositor which is a little longer than the abdomen.

Dark metallic coppery green, the wings hyaline, the abdomen dark brown, the valves of the ovipositor nearly black; cephalic and intermediate legs pale yellow; the caudal coxæ and the femora concolorous, the former diluted with brownish. Scutellum glabrous caudad of the transverse suture. Antennæ with the pedicel longer than any of the funicle joints, dusky; first two funicle joints subequal, the distal three each a little wider than long. Thorax transversely lineolated, impunctate or nearly.

Habitat: Gordonvale (Cairns), Queensland. Forest (1,500 feet), May 26, 1912.

Type: No. *Hy 3342*, Queensland Museum, Brisbane, the female on a tag, the head on a slide.

3. BOOTANOMYIA VIRIDISCUTELLUM new species. Female.

Length, 1.65 mm., excluding ovipositor whose exserted portion is slightly longer than the abdomen.

Orange yellow, the pronotum and legs lemon yellow, the wings hyaline. Meson of pronotum triangularly (apex caudad), scutum, scutellum and propodeum bright metallic green, the abdomen at base above with two short, dusky greenish, cross-stripes. Scutum with sparse thimble punctures. Vertex with U-shaped green marking, the arms pointing cephalad. Thorax finely, transversely lineolated, the scutellum distad of the transverse line, polished.

Habitat: Gordonvale (Cairns), Queensland. Forest, August 9, 1912.

Type: No. *Hy 3343*, Queensland Museum, Brisbane, the female on a tag, the head on a slide.

4. BOOTANOMYIA PERGRATUS new species. Female.

Length, 1.80 mm., excluding ovipositor which is about as long as the abdomen.

Like *pax* but all the legs concolorous, the thorax with metallic green and purple reflections, the abdomen as dark as the thorax and the antennæ concolorous and with the first two funicle joints a little longer than the pedicel. Moreover, distad of the transverse suture, the scutellum is not glabrous but finely longitudinally striate like the rest of the sclerite. Antennæ 13-jointed, the club 3-jointed, one ring-joint. Pronotum transversely striate, scutum variously striate.

Habitat: Gordonvale (Cairns), Queensland. Forest, August 2, 1913 (A. P. Dodd).

Type: No. *Hy 3344*, Queensland Museum, Brisbane, the female on a tag, the head on a slide.

5. BOOTANOMYIA LONGIFASCIATA new species.

Female:—Length, 1.36 mm., excluding ovipositor which is extruded for a length slightly longer than that of the abdomen.

Pale lemon yellow, the wings hyaline; a rather narrow metallic green line down thorax from neck to cross-suture on scutellum caudad of which it enlarges and becomes subtriangular; propodeum with a large triangular metallic green area centrally, the base against its cephalic margin. Funicle 1 somewhat longer than wide, somewhat shorter than the pedicel; distal two funicle joints distinctly wider than long; club distinctly jointed. Ocelli in a transverse metallic area. Abdomen with two short, metallic green cross-stripes at proximal half, the first somewhat prolonged at its caudal meson. Thorax transversely wrinkled, the scutellum caudad of the transverse suture polished. The thoracic median stripe is a little narrower on the scutellum cephalad of suture than on the scutum. It runs to apex of scutellum.

From one female captured by sweeping in forest, August 28, 1913.

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 3345*, Queensland Museum, Brisbane, the specimen on a tag, the head on a slide.

6. BOOTANOMYIA ASHMEADI new species.

Female:—Length, 1.25 mm., excluding ovipositor which is extruded for a length equal to that of the abdomen.

Runs to *longifasciata* but somewhat smaller, the color darker yellow and differing principally in having the metallic green line down meson of thorax darker and broader, less uniform; in *longifasciata* this line is narrower on the scutellum (cephalad of cross-suture) than on scutum but its width is uniform within the bounds of each sclerite; but in this new species, it distinctly widens caudad both on scutum and scutellum; on the latter its broadening thus leaves only the lateral margins of that region concolorous with the body; its (the line's) broadening on the scutum makes that region entirely metallic green across the caudal part. In *longifasciata* the scutellum distad of the cross-suture is not wholly green, only broadly so along meson, in this species all that part of the scutellum is metallic green. The abdomen bears at least two cross-stripes but may be one or two more than that. Funicle 1 a little wider than long, distinctly shorter than the usual pedicel, the others gradually shortening and widening distad. Antennæ pale yellow.

From one female caught in forest, December 23, 1912.

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 3346*, Queensland Museum, Brisbane, the specimen on a tag.

Dedicated to William Harris Ashmead.

7. BOOTANOMYIA AEREA new species.

Female:—The same as *pax* but all coxæ metallic green, the first two pairs of femora dusky, the last pair black and the hind tibia is black just below knees; the abdomen is black. In *pax*, the propodeum is brownish, metallic green in this species (also here the row of oval foveæ along cephalic margin is deeper; both species bear a pair of converging median carinæ which curve off cephalad to form the caudal boundary of the line of foveæ). Abdomen glabrous. Funicles 1-2 quadrate, much shorter than the pedicel.

A second specimen had the propodeum on each side of median carina finely scaly, the body more robust and the abdomen humped or at the highest dorso-proximal part distinctly elevated triangularly. The specimen probably represents another species.

From two females reared from galls "Gall No. 28, May, 1914, H. Hacker."

Habitat: Brisbane, Queensland.

Type: No. *Hy 3347*, Queensland Museum, Brisbane, one female on a tag, the body of the first and its head on a slide.

8. BOOTANOMYIA SANGUINIVENTRIS new species.

Female:—Length, 3.30 mm. excluding the ovipositor which is extruded for a length equal to that of the abdomen.

Dark æneous green, the abdomen immaculate, blood red, the head golden yellow except the center of vertex which is æneous nearly to the eyes on each side. Legs honey yellow; antennæ concolorous with the head, the pedicel and funicle dusky; scape triquetrous (prism-shaped, the three corners acute, the sides flat), reaching to the ocelli; pedicel subequal to funicle 1 which is a little longer than wide; joints 2 and 3 of funicle a little longer than 1, longest; distal funicle joint (7) a little wider than long; one ring-joint distinct, other not seen. Thorax rather coarsely transversely lineolated; scutellum glabrous distad of the cross-suture; one or two thimble punctures on caudal part of scutum. Thorax with soft whitish pubescence. Valves of ovipositor black; wings hyaline. Valves of ovipositor and hind tibiæ hispid.

From one female labelled "No. 38," captured in jungle, October 10, 1913, G. F. Hill.

Habitat: Port Darwin, Northern Territory.

Type: No. *Hy 3348*, Queensland Museum, Brisbane, the specimen on a tag, the head on a slide.

TABLE TO THE AUSTRALIAN SPECIES OF *BOOTANOMYIA* GIRAULT.

Wholly metallic.

Dark coppery green, the cephalic and intermediate legs pale yellow; pedicel longer than any of the funicle joints, the first two of the latter subequal. Scutellum distad of transverse suture, glabrous .. .. *pax* Girault; see *aerea* Girault.

The same but with greenish and purple reflections, the legs concolorous, the pedicel a little shorter than funicle 1; scutellum distad of the transverse suture sculptured as densely as the rest of the sclerite .. .. *pergratus* Girault.

Partly metallic; yellow.

Scutum with obvious scattered thimble punctures; scutellum distad of suture glabrous. Scutellum bright metallic green.

Thimble punctures rather numerous; metallic green of scutum without straight lateral margins, broader cephalad; abdomen dusky above .. .. *smaragdus* Girault.

Thimble punctures few; metallic green of scutum with straight lateral margins leaving more of the cephalo-lateral angle yellow. Abdomen with two metallic green cross-stripes .. .. *viridiscutellum* Girault.

Scutum without obvious thimble punctures.

Thorax with a bright metallic green median stripe from neck to abdomen, this stripe dilating on the scutellum distad of the suture and on propodeum; abdomen with two green cross-stripes on proximal half. Scutellum polished distad of suture .. .. .. *longifasciata* Girault; see *ashmeadi* Girault, *sanguiniventris* Girault.

PARAMEGASTIGMUS new subgenus.

Female:—Differs from *Megastigmus* Dalman in having the abdomen shortly petiolate and the club subsolid, the sutures nearly obsolete.

Type: *Spilomegastigmus flavus* Girault.

1. PARAMEGASTIGMUS FLAVUS (Girault). Female. Genotype.

Spilomegastigmus flavus Girault.

Length, 2 mm. excluding ovipositor which is slightly longer than the abdomen, the valves black.

Wings hyaline excepting the stigma; abdomen with a distinct petiole, which, however, is not very much longer than wide. Honey yellow, the abdomen with about four transverse

short stripes of black; legs and scape pale yellow, the flagellum dusky. Mesoscutum and scutellum transversely reticulated in polygons, the latter with a cross-furrow. Mandibles tridentate. Antennæ slender, 11-jointed, the club solid, one ring-joint; all funicle joints longer than wide, the first three subequal, longest, much longer than the pedicel. Head smooth. Type re-examined.

Habitat: Gordonvale (Cairns), Queensland. Forest.

Type: No. *Hy 3349*, Queensland Museum, Brisbane.

2. PARAMEGASTIGMUS IMMACULATICORPUS new species.

Female:—The same as the genotype but immaculate, somewhat more robust and the proximal two-thirds of ovipositor valves are brown, the rest black. Propodeum in both species with several cross-carinæ. Legs whitish in both species. Funicle 7 somewhat longer than wide.

From one female taken in forest, November 30, 1913.

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 3350*, Queensland Museum, Brisbane, the female on a tag.

EPIMEGASTIGMUS new subgenus.

Female:—Differs from *Megastigmus* in bearing a median and usually a lateral grooved line on the scutellum all more or less abbreviated caudad. Type, the first of the following species.

1. EPIMEGASTIGMUS FULVIPES (Girault). Female. Genotype.

Xanthosomoides fulvipes Girault.

Length, 4.20 mm., excluding the ovipositor, the latter exserted for a length nearly equal to that of the body.

Similar to *Megastigmus maculatipennis* but much more robust; also the pronotum is nearly as dark as the scutum, its caudal margin contrasting lemon yellow followed by a narrow black stripe running across the cephalic margin of the scutum; the propodeum is very dark, the meson of thoracic venter is black and in the preventer there is a distinct triangular black marking like the Greek letter *delta* of the capital case. The postmarginal vein is slightly longer than in *maculatipennis*, the apparent petiole of the stigma slightly longer. Vertex dark ochreous, the face lemon yellow. Wings large. Funicle 1 longer, cylindrical, more than twice longer than wide. The abdomen bears three dusky cross-stripes equally distributed.

Habitat: Brisbane, Queensland.

Type: No. *Hy 3351*, Queensland Museum, Brisbane, the female on a card.

2. EPIMEGASTIGMUS GROTIUSI new species. Female.

Length, 3.90 mm., excluding the ovipositor which is three fourths the length of the body or a little over.

Orange yellow, immaculate, the valves of the ovipositor black; wings hyaline. Scutum with a narrow median groove, the propodeum with a median sulcus. Funicle joints all longer than the pedicel, the first over twice longer, the seventh but slightly longer, not much longer than wide; joints 2 and 3 of funicle subequal, only slightly shorter than 1 which is longest. The lateral groove on scutellum is most obscure or else absent.

The male is very much smaller, the abdomen sordid, blackened at base above but otherwise the same.

Habitat: Port Darwin, Northern Territory.

Type: No. *Hy 3352*, Queensland Museum, Brisbane, the female on a tag.

3. EPIMEGASTIGMUS QUINQUEFASCIATUS new species.

Female:—Length, 3 mm., excluding ovipositor whose valves are extruded for a length equal to that of the abdomen.

Honey yellow, the thorax dorsad orange yellow; the wings hyaline, the body marked with black as follows: Antennæ except proximal two thirds of scape, a few lateral and ventral thoracic sutures, lateral margins of propodeum, margins of abdomen from base not quite to apex, extruded valves of ovipositor (jet) and five cross-stripes on abdomen, evenly distributed, the first two narrowly divided along the meson, the last two joined along the meson, the last across just within the ends of the marginal stripes, all moderately broad. Postmarginal vein about as long as the marginal. Only the median groove of scutellum is present. Funicle joints all distinctly longer than wide, 1 somewhat the longest, nearly twice longer than wide, subequal to the pedicel. Dorsal thorax with scattered black hairs.

From one female caught July 11, 1914 in jungle.

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 3353*, Queensland Museum, Brisbane, the specimen on a tag.

4. EPIMEGASTIGMUS TRISULCATUS new species.

Female:—Length, 1.70 mm., excluding ovipositor which is extruded for a length somewhat more than that of the abdomen.

Dark red, the propodeum, caudal coxæ, caudal margin of pronotum (the black preceded by a narrow band of lemon yellow), occiput, thorax on each side of scutellum caudad of axillæ and most of mesopleurum, jet black; also ovipositor valves and stigma. Abdomen with two broad dusky cross-stripes, the second at middle, both rather broadly interrupted at meson. Legs brownish yellow. Flagellum black, the funicle joints as long as the pedicel, one and a half times longer than wide, the distal three shortening, a little longer than wide. Scutellum with three grooves, one median, all disappearing before apex. Propodeum with a long narrow median carina, finely rugulosely punctate. Postscutellum lemon yellow. Much smaller than *fulvipes*, the hind coxæ black.

From one female labelled "Bred from gall No. 27, May, 1914, H. Hacker."

Habitat: Brisbane, Queensland.

Type: No. *Hy 3354*, Queensland Museum, Brisbane, the specimen on a tag, the head on a slide.

BOOTANELLEUS new genus.

Like *Bootania* Dalla Torre but the scutum and the rest of the thorax are metallic and with a scaly sculpture, the axillæ advanced. Mandibles tridentate. Abdomen sessile. Antennæ 12-jointed, two ring-joints, the club solid. Propodeum without a median carina. Form small.

1. BOOTANELLEUS VIRIDISCUTELLUM new species. Female. Genotype.

Length, 0.65 mm., excluding ovipositor which is extruded for a length equal to that of the abdomen. Dull honey yellow, the scutum metallic green, the scutellum caudad of the transverse line metallic cyaneus, also the propodeum, the parapsides honey yellow; abdomen dull yellow; legs and antennæ honey yellow, the wings hyaline. Valves of ovipositor black. The seven funicle joints all smaller than the pedicel, the first a little the longest. Axillæ metallic green.

Habitat: Capeville (Pentland), Queensland. Forest, December 27, 1912.

Type: No. *Hy.3355*, Queensland Museum, Brisbane, the female on a tag, the head on a slide.

ORMYRINÆ.

GENUS ORMYRUS Westwood.

1. ORMYRUS AUSTRALIENSIS new species. Female.

Female:—Length, 1.60 mm. Short and compact.

Dark metallic æneous green, the wings hyaline; tegulæ, tibiæ and tarsi straw yellow, also the knees, the rest of the legs concolorous; segments of abdomen densely scaly, the first row of large punctures double, the second triple, the third or last quadruple. Antennæ 13-jointed with two ring-joints, the club 3-jointed but not very distinctly divided. Mesonotum hairy, with very fine scaly reticulation. Antennæ black, the pedicel longer than any of the transverse funicle joints. Propodeum very short, finely alutaceous, no median carina. Abdomen suffused with brownish.

Habitat: Gordonvale (Cairns), Queensland. Forest, April 3, 1913 (A. P. Dodd).

Type: No. *Hy 3356*, Queensland Museum, Brisbane, the female on a tag, the head on a slide.

2. ORMYRUS BICARINATUS new species. Female.

Length, 1.50 mm.

Differs from *australiensis* in bearing on the short propodeum a pair of median carinæ which are separated and the hind tibiæ are as dark as the femora, the other tibiæ washed more or less with metallic centrally. The general coloration is darker. The pedicel and funicle joints are longer. Both species bear a median carina along the distal half or more of the abdomen and also fine oblique striæ on the propodeum laterad of the meson.

Habitat: Harvey's Creek (Cairns), Queensland. Jungle, November 15, 1913 (A. P. Dodd).

Type: No. *Hy 3357*, Queensland Museum, Brisbane, the female on a tag, the head on a slide.

3. ORMYRUS CARINATIVENTRIS new species.

Female:—Length, 1.50 mm.

The same as *bicarinatus* but the femora and tibiæ are yellowish brown, the abdomen brown, metallic purple at base with cross-stripes of purple at the cephalic margin of each segment somewhat as in *australiensis*. The scutellum is purplish blue. One hind tibial spur stout and curved as in *bicarinatus*. Scape yellow; funicle 1 shorter than 6, both wider than long.

From one female captured in jungle, March 6, 1914 (A. P. Dodd).

Habitat: Cooktown, Queensland.

Type: No. *Hy 3358*, Queensland Museum, Brisbane, the specimen on a tag, the head on a slide.

4. ORMYRUS BICOLORIPES new species.

Female:—Length, 1.65 mm.

Like *australiensis* but the propodeum bears the two carinæ at the meson and only the coxæ and caudal femur are concolorous, the legs and scape reddish brown. Funicle joints a little shorter than the pedicel, all subequal and subquadrate. Tarsi white.

From one female caught April 2, 1914 on jungle edge.

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 3359*, Queensland Museum, Brisbane, the specimen on a tag.

Members of this group rarely shrivel except as regards the abdomen. The thoracic structure of the Callimominæ, Monodontomerinæ and Idarninæ need careful comparison and it seems doubtful if Ashmead's characters are universal or even usual. His groupings, however, are acceptable.

Walker has described the following species: *Torymus daonus, osinius* and *vibidia.*

AUSTRALIAN HYMENOPTERA CHALCIDOIDEA—XIII.*

The Family Agaonidæ with Descriptions of Four New Genera, Six New Species, and One New Variety.

By A. A. Girault.

Family AGAONIDÆ.

Subfamily AGAONINÆ.

Genus BLASTOPHAGA Gravenhorst.

1. BLASTOPHAGA INSULARIS new species. Female.

Length, 1.40 mm., exclusive of ovipositor.

This species runs to *Idarnes* Walker of the Idarninæ but the scutellum without grooved lines, subquadrate and flat but the lateral margins carinated, concave and the others concave to some extent; axillæ very widely separated. Parapsidal furrows complete, narrow. Postmarginal vein about the length of the long and slender stigmal which runs nearly directly caudad. Exserted part of the ovipositor a little longer than the abdomen. Mandibles bidentate; antennæ 11-jointed, without a ring-joint, the third joint prolonged into a submembraneous sheath, acute at tip, which surrounds the second funicle joint which is shortest yet longer than wide and subequal to the first which appears to be membraneous. Scape dilated, beneath with a tubercle-like tooth at proximal third. Joints of antennæ beyond the second with numerous, flattened glume-like setæ which project beyond the apex of each. Fore and hind legs swollen. Head quadrate. Middle club joint shortest, much wider than long, club 3 longest, somewhat longer than wide, with a minute terminal nipple.

Brown, the wings hyaline, the legs concolorous except the tarsi which are yellow; funicle and club black, the scape (also pedicel) yellowish brown. Fore and hind tibiæ very short, much shorter than their femora or tarsi.

Habitat: Thursday Island, Torres Strait, Queensland. Forest, March 12, 1912.

Type: No. *Hy 3361*, Queensland Museum, Brisbane, the female on a slide.

Genus PLEISTODONTES Saunders.

This genus is characterised by the very long head which is two and a half times longer than wide. Head oblong, or very long, from two and a half to three times as long as wide, the facial channel narrow; mandibles at apex bidentate; antennæ 11-jointed; the first funicle joint with a distinct process; marginal, stigmal and postmarginal veins fully developed.

In the male the thorax is trapezoidal in outline; the antennæ 6-jointed with three ring-joints; the cephalic tarsi 5-jointed. Body somewhat narrow. The cephalic tarsus not reposing in a sulcus at the tip of the front tibia. Basal part of antennæ not enclosed in a canal.

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* Contribution No. 36. Entomological Laboratory, Bureau of Sugar Experiment Stations, Bundaberg, Queensland.

1. PLEISTODONTES IMPERIALIS Saunders. Genotype.

Habitat: Australia. Fruit of *Ficus macrophylla.*

2. PLEISTODONTES NIGRIVENTRIS new species. Female.

Length, 2.20 mm., excluding ovipositor which is exserted for a length about equal to that of the abdomen. Head not quite twice longer than wide. Postmarginal vein longer than the stigmal, the latter long.

Orange yellow, the posterior margin of the head, flagellum, all of abdomen except at base, an hourglass-shaped marking down meson of pronotum and cephalic part of scutum (a smaller end cephalad; shaped like an inverted eggcup), a stripe across apex of thorax (about apex of scutellum), the tegulæ and a dot in a line longitudinally with them, cephalad (opposite the apex of the eggcup-shaped marking), jet black; also the valves of the ovipositor. Mandibles bidentate at apex (but 5-dentate), the antennæ 11-jointed without a ring-joint, the scape hemispherically dilated (foliaceously). Third and fourth funicle joints subequal, longest, longer than the pedicel which is subequal to the distal funicle joint. Postmarginal vein longer than either marginal or stigmal, the latter shortest. Wings hyaline. Body glabrous. Pedicel wider than long; funicle 1 with the process which encloses 2, the latter longer than wide.

Habitat: Mount Tambourine (type), Queensland and Tweed River, New South Wales.

Type: No. *Hy 3360,* Queensland Museum, Brisbane, the female on a tag, the head on a slide.

CERATOSOLENSIA new genus.

Female:—Agreeing with *Ceratosolens* Mayr but the antennæ are only 10-jointed, the club 2-jointed, the last two funicle joints wider than long, no ring-joints; first funicle joint with a sheath-like process. Mandibles bidentate, the appendage serrate. Marginal, stigmal and postmarginal veins subequal. Spiracular fovea long, gougelike. Head somewhat longer than wide, without a tubercle. Ovipositor as long as the thorax and abdomen together.

Male:—Differing from *Ceratosolens* in that the antennæ are only 4-jointed. Mandibles strongly bidentate.

Type: The following species.

1. CERATOSOLENSIA FICOPHAGA new species.

Female:—Length, 1.60 mm. Fore wings very broad.

Shining black, the distal third of the abdomen and the head suffused with brown. Wings hyaline. Legs yellow, the antennæ brownish, the scape and pedicel darker. Fourth funicle joint longest. Body glabrous. Parapsidal furrows subobsolete caudad. Vertex and center of face yellowish. Pronotum pubescent. Intermediate femur dusky centrally.

Male:—Length, about 3 mm. Apterous and normal for the subfamily.

Rich yellow, the head chestnut brown, the pronotum brownish. Antennæ and legs concolorous with the head and body respectively but the former with extreme tip pale yellow; the antennæ lie for nearly their entire length in what appears to be a closed canal; the first joint is stout, the second shortest, subequal in width to the two following, the third longest but not much longer than the fourth and last which is somewhat longer than the first; the second joint is only about two thirds the length of the first. Types re-examined.

Described from several dozen specimens of each sex taken from a partly ripe fig, jungle, September 18, 1912. Also in January.

A number of male Sycophagines were also present and both sexes of the *Idarnomorpha* described elsewhere.

Habitat: Gordonvale (Cairns), Queensland.

Types: No. *Hy 3362*, Queensland Museum, Brisbane, two of the above females tag-mounted (two pins).

PARACERATOSOLEN new genus.

Female:—Like *Ceratosolensia* Girault but the ovipositor not exserted, the scutellum with two grooved lines, the parapsidal furrows complete, distinct. Stigmal vein subequal to the marginal, the postmarginal somewhat longer than either, all well developed. Abdominal spiracle gougelike. Otherwise agreeing in detail but the antennæ with one more joint.

1. PERACERATOSOLEN LATIPENNIS new species. Genotype.

Female:—Length, 1.30 mm.

Shining black, the wings hyaline, the venation black; legs, scape and pedicel (except at base) golden yellow; club rather whitish. Scutellum and base of abdomen dorsad, suffused with orange. Under sides and venter of thorax more or less golden yellow. Body glabrous. Antennæ 11-jointed, the club distinctly 2-jointed, no ring-joint; joints 5 and 6 of funicle longest, 1 and 2 shortest, 1 with the appendage, 3 twice the length of 2, 7 much longer than wide, nearly as long as 6. Scape swollen, subacutely emarginate along central edge near apex. Pedicel rather thick, subequal to funicle 5.

From two specimens from the same fig with *Philotrypesis silvensis*, taken in jungle, January 21, 1914 (A. P. Dodd).

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 3363*, Queensland Museum, Brisbane, one female on a tag, the head on a slide.

A. PARACERATOSOLEN LATIPENNIS LONGICLAVUS new variety.

Female:—Length, 1.30 mm.

The same as the preceding but the scutellum is concolorous, the venter of abdomen distad golden yellow, the club black like the rest of the antennæ; characterised by the antennal club which is somewhat longer, more or less equal to the distal two funicle joints united (shorter in *latipennis*) and the two club joints are subequal (whereas in *latipennis*, the distal joint is short, distinctly shorter than the proximal).

Described from one female, taken in jungle, April 27, 1913. One antenna on this female had the distal club joint short as in *latipennis* type yet the club was as long as that of the other antenna. Locality same as the typical form.

NEOCERATOSOLENS new genus.

Female:—Antennæ 10-jointed, the club 3-jointed; first funicle joint with a sheath-like process; scape greatly flattened. Head much longer than wide, one and a half times longer than wide, with a deep median channel. Postmarginal vein subequal to marginal, each a little longer than the stigmal. Ovipositor extruded for two thirds the length of the abdomen. Head, thorax and abdomen subequal in length. Pronotum quadrate, somewhat longer than the scutum which is subequal to the scutellum. Parapsidal furrows absent. Hind tibiæ wider than long, smaller than the hind coxa, the single spur stout and with a distinct notch (fork) at tip; the whole resembling somewhat a wrench. Body highly polished but with very minute punctures here and there. No ring-joint.

1. NEOCERATOSOLENS NITENS new species. Genotype.

Female:—Length, 3.75 mm., excluding ovipositor.

Black, the ventral surface, legs, scape, pedicel and funicle 1 rich yellowish brown; wings hyaline. Pedicel quadrate, funicle 1 smallest, joints 2-5 subequal, each obconic, each somewhat longer than the club joints and about one and a third times longer than wide at apex. Flagellum gradually thickening distad.

From one specimen taken in the jungle, February 14, 1914 (A. P. Dodd).

Habitat: Babinda, Queensland.

Type: No. *Hy 3364*, Queensland Museum, Brisbane, one female on a tag, the head on a slide.

KRADIBIELLA new genus.

Female:—Apterous. Head somewhat longer than wide, the antennæ inserted at the mouth, 10-jointed, the scape greatly flattened and dilated, the first funicle joint with a horn-like process from its base, which also resembles somewhat a thumb bent backward, the club 3-jointed, no ring-joints. Mandibles bidentate, the outer tooth much the larger. Head with a deep, long median groove. Form short and stout, the abdomen short, the ovipositor extruded for less than its length. Middle legs slender but not long. Scutellum longer than wide, flattened. Parapsidal furrows absent; propodeum not very definite. Front tibiæ very short like an elbow between the thick femur and the much longer tarsi.

1. KRADIBIELLA NIGRICORPUS new species. Genotype.

Female:—Length, 0.65 mm.

Polished black, the knees, tibiæ and tarsi whitish. Pedicel longer than wide, a little longer than any funicle joint of which the first is shortest but a little longer than wide; funicle 1 narrower than the others, 5 next shortest, 2-4 subequal; club conical, not as long as the funicle.

From one female captured in jungle, July 13, 1913.

Habitat: Harvey's Creek (Cairns), Queensland.

Type: No. *Hy 3365*, Queensland Museum, Brisbane, one female on a tag, the head on a slide.

AUSTRALIAN HYMENOPTERA CHALCIDOIDEA—XIV.*

The Family Chalcididæ with Descriptions of New Genera and Species.

By A. A. Girault.

Family CHALCIDIDÆ.

Subfamily CHALCIDINÆ.

Tribe CHALCIDINI.

Genus CHALCIS Fabricius.

Synonyms: *Brachepitelia* Girault, *Pseudepitelia* Girault and *Tumidicoxa* Girault.

1. CHALCIS ATRATA Kirby.

"Exp. al. 5 lin.; long Corp. 3 lin.

Black, covered with a hoary pile, which is much more conspicuous than usual except on the first segment of the abdomen, even covering the hind femora; a reddish dot below the scape of each antenna; legs black; knees, tips of tibiæ and tarsi testaceous; hind femora armed with about eight minute teeth. Wings hyaline, with brown costal nervure.

Habitat: Queensland.

2. CHALCIS NITATOR Walker. Male.

Chalcis nitator Walker, Trans. Ent. Soc. Lond., I, p. 356, ♂ (1862). Australia.

3. CHALCIS OPPONENS Walker. Male.

Chalcis opponens Walker, Notes on Chalcid., pt. 3, p. 50, ♂ (1871). Australia.

4. CHALCIS PHYA Walker. Female, male.

Chalcis phya Walker, Ent. Mag., V, p. 47, ♀ ♂ (1838). Aust.

5. CHALCIS SIDNICA (Holmgren). Female.

Brachymeria sidnica Holmgren, Eugen. Resa. Ins. p. 437, ♀ (1868).

6. CHALCIS TEUTA Walker.

Chalcis teuta Walker, The Entomol., p. 218 (1841). Tasmania.

7. CHALCIS UCALEGON Walker.

Chalcis ucalegon Walker, List. Hym. Brit. Mus., Chalcid., I, p. 84 (1846).

8. CHALCIS ALBITEGULA new species. Male.

Length, 5 mm.

Black, marked with white as follows: The tegulæ, the knees broadly, tips of tibiæ, distal end of hind femur and on elongate spot below knee on hind tibiæ and a longer one at tip,

* Contribution No. 37, Entomological Laboratory, Bureau of Sugar Experiment Stations, Bundaberg, Queensland.

both above; tarsi whitish. Hind femur beneath with thirteen teeth, the second one at the side of the base of the first and minute, the last one minute and more or less joined with the preceding. Thorax punctate, the punctures pin-punctures, the disc of the scutellum smooth along meson broadly for proximal two thirds. Wings slightly stained under the veins. Abdomen sculptured as in *brisbanensis*.

Habitat: Gordonvale (Cairns), Queensland. Forest, three males.

Type: No. *Hy 3370*, Queensland Museum, Brisbane, a male on a tag.

9. CHALCIS RUBRIPES (Girault). Female. Genotype of *Brachepitelia* Girault.

Brachepitelia rubripes Girault.

Length, 3.70 mm.

Opaque black, marked with dark red as follows: Posterior legs except coxæ; cephalic knees, tibiæ and tarsi; intermediate knees, tips of tibiæ and tarsi (mixed with brownish) and the ends of the tibiæ. Venation dark, the wings hyaline. Head and thorax rugoso-punctate. Posterior femur armed with ten distinct teeth, the first twice the largest, the distal teeth smaller in succession. Tegulæ black. Plate of scutellum with straight distal margin. Segment 2 of abdomen occupying nearly half the surface.

Habitat: Melbourne, Victoria. Larvæ of various moths.

Type: No. *Hy 1184*, Queensland Museum, Brisbane, the female on a card; an antenna on a slide.

10. CHALCIS FROGGATTI Cameron.

Length, 4 mm.

Black; anterior tibiæ in front and their base and apex behind, middle knees and tarsi testaceous; hind femora behind and the upper two-thirds, basal third and apical third of tibiæ red; hind tarsi paler than the others; hind femora closely punctured, their teeth numerous, closely pressed together; wings hyaline, the nervures black.

Head umbilicately punctate, more coarsely above than along the sides of front. Pro- and mesonotum umbilicately punctate, scutellum more coarsely than mesonotum; metanotum coarsely, irregularly reticulated, the sides broadly rounded. Upper part of propleuræ roundly convex, transversely aciculated, the sides broadly rounded, curved furrow, widest below. Mesopleuræ bordered by a row of large, round foveæ, upper part smooth on basal half, apical weakly striated, this part projecting below the basal; the part under the latter covered with deep round punctures, base of apical punctured below, like the basal part but more sparsely. Metapleuræ coarsely reticulated.

Habitat: Kenthurst, N.S.W.

11. CHALCIS EUPLŒÆ Hope.

"An Indo-Malayan species of wide range. Bred from *Antheræa simplex;* Richmond River, N.S.W. (W. W. Froggatt)." (Cameron, 1911.)

This probably refers to Westwood's species of the same name.

12. CHALCIS POMONÆ Cameron. Female.

Length, 7 mm.

Black; head and thorax densely covered with short, white pubescence, abdominal segments on the side fringed with long white hair, tegulæ, apex of four front femora and base of their tibiæ narrowly, apex of tibiæ more broadly, apex of hind femora, base and apex of tibiæ (about one third), central black part a little longer than the colored base and apex, which are of equal length, and tarsi, white; femoral teeth short, blunt, the basal longer than the others; there are about ten teeth, covered with white pubescence; wings hyaline, venation black. Closely, rather strongly, umbilicately punctate; puncturation on central lobe of mesonotum stronger than on lateral, on scutellum still stronger; the apex of the latter projecting and transverse; metanotum irregularly, coarsely reticulated; central basal area

semicircular, bounded by a small square on either side, the other area much larger transverse, its apex broadly projecting in the middle; base bordered by a row of small arcæ, longer than wide, and of equal width; sides broadly rounded. Abdomen smooth, shining, longer than head and thorax combined, gradually narrowing from segment 2 to apex.

"This is not a typical *Chalcis*; the apex of scutellum is transverse and the abdomen longer and more distinctly narrowed than e.g. in *C. cuplœæ*. Its precise generic location may be left until the male has been discovered. The abdomen shows an approach to *Conura* and *Phasgonophora*." (Cameron, 1911.)

Habitat: Glen Innes, New South Wales.

13. CHALCIS TEGULARIS Cameron. Female.

Length, 5 mm.

Black; hind femora except the teeth black, the four anterior knees, fore tibiæ in front and at the base and apex behind, testaceous; middle tarsi except the apical joint, which is fuscous, a band the length of the black basal part, near the base of the hind tibiæ and the basal four joints of the hind tarsi, white; wings hyaline, venation black; the apical three fourths of the tegulæ grey, base with a semicircular black spot. Hind femora with at least ten teeth, the basal small and closely pressed, the apical larger, more clearly separated and rounded; the teeth are almost hidden by dense white pubescence.

Head and thorax densely, umbilicately punctate, metanotum widely reticulated. Propleuræ coarsely aciculated, the lower part with two or three oblique striæ, bordered below by an oblique longitudinal one. Mesopleural furrow striated on the upper three fourths; the lower basal part irregularly reticulated. Metapleuræ closely, regularly reticulated. Abdomen with the third and following dorsal segments punctured and densely covered with silvery pubescence. Flagellum of antennæ opaque, densely covered with a white pile.

Habitat: Sydney, New South Wales.

14. CHALCIS HYPOLYCÆNÆ new species.

Female:—Length, 5.50 mm.

Differing from *hercules* in being much smaller, in having all of cephalic femur golden yellow and somewhat over distal half of middle femora, the plate at apex of scutellum is but slightly emarginate, the tegulæ are all golden yellow, the fore wings hyaline, funicle 1 is a little longer than wide and the caudal femur beneath bears 10 teeth of which the first is acute and distinctly longer than the others, 2 and 3 flattened, the last three minute, equal. Also the cephalic narrow part of mesopleura is not densely punctate, the wider caudal part not densely longitudinally striate. Face below antennæ with dense silvery pubescence. The upper apex of caudal femur is more broadly golden yellow than with *hercules*.

From one female specimen labelled "34. Parasite of *Hypolycana phorbas*. March 6, 1914. G.F.H."

Habitat: Port Darwin, Northern Territory.

Type: No. *Hy 3371*, Queensland Museum, Brisbane, the specimen minutien-mounted.

15. CHALCIS RUBRIVENTRIS new name. Female.

Tumidicoxa rufiventris (Girault).

Length, 5 mm.

Opaque black, the abdomen rufous or orange red as are also the antennal flagellum, the posterior coxæ, tibiæ (except at tip) and femora (except at apex, laterad), the cephalic tibiæ except at base and all the tarsi (somewhat diluted with yellowish); cephalic or intermediate coxæ black or very dark, the proximal two thirds of the cephalic and intermediate femora black, their distal third honey yellow. Scape dark fuscous, the pedicel somewhat lighter. Tegulæ, a rounded spot at apex of posterior femur laterad, a distinct long-oval spot at tip of posterior tibiæ (nearly distal third dorsad) and the knees more or less, lemon

yellow. Wings slightly stained throughout, the venation smoky. Pubescence not conspicuous, with a reddish tinge. Scrobicular cavity nearly smooth, shining; head and thorax rugoso-punctate, the propodeum mesad (dorsal aspect) foveate, the abdomen glabrous but the distal segments finely, polygonally sculptured. Lateral ocelli distinctly more than their own diameter from the eye margin. Plate at apex of scutellum distinctly bilobed. Propodeum in the dorso-lateral aspect with at least one tooth-like projection, its lateral aspect moderately hairy but not conspicuously so. Posterior femora beneath with one moderately large tooth, followed by ten others which are smaller distad, all the ten much smaller than the first. Antennæ 13-jointed, the single ring-joint large, the pedicel as long as funicle 1 which is somewhat wider than long, the remaining joints all wider than long except the middle club joint which is longest; distal funicle joints transverse; flagellum clavate, somewhat compressed.

Habitat: Warburton, Victoria.

Types: No. *Hy 1178*, Queensland Museum, Brisbane.

16. CHALCIS PERFLAVIPES new name. Female.

Tumidicoxa flavipes Girault.

Length, about 5 mm.

Like the South American species of *Tumidicoxa* but the plate at the apex of scutellum is not emarginate at the meson or barely so. Opaque black marked with lemon yellow as follows: The tegulæ except at extreme base (cephalad), tibiæ and tarsi except the brownish base of posterior tibia and parts of the distal tarsal joint, distal half of cephalic femora, distal third of intermediate femora and the tip of the caudal femora. Legs otherwise black, reddish black on femora and tibiæ of first two legs; venation and antennæ brownish black, the latter really black, brownish toward tip. Wings perfectly clear. Body rugoso-punctate, the second abdominal segment shining. Pubescence not conspicuous. Antennæ 13-jointed, cylindrical, with one ring-joint, the pedicel small, wider than long, not half the length of the proximal funicle joint which is the longest joint of the flagellum. Distal club joint obliquely truncate at tip. Distal funicle joint slightly wider than long, the middle joints subquadrate. Scape short, simple. Posterior femur beneath armed with twelve teeth the first of which is twice longer than the others, the last three each distinctly smaller in succession, the last very small. The teeth are black and they rather increase in size at the middle (Nos. 5, 6 and 7 from proximal end). Posterior femur minutely punctulate, clothed with soft greyish pubescence. Lateral ocelli are somewhat farther away from the eyes than in *rubriventris*.

Habitat: Dandenong Mountains, Victoria.

Type: No. *Hy 1179*, Queensland Museum, Brisbane.

One male, Brisbane, March 28, 1913 (H. Hacker) from larva of *Ephistia cautella*.

17. CHALCIS VICTORIA (Girault). Male.

Tumidicoxa victoria Girault.

Length, 6.1 mm. Rather large.

Like the preceding but larger, more robust, the plate at apex of scutellum plainly bidentate, the scape longer, the black parts of the legs darker and specifically the cephalic tibiæ are brown in the middle, the intermediate ones black along proximal half except at base and the posterior ones black in the middle, their tips pale yellowish. The posterior femora beneath bear nearly the same arrangement of teeth but there are eleven followed by a minute tubercle; numbers 3 and 4 are larger than 2 and those distad of them. The posterior coxæ bear a flabellate enlargement of its apex above. The antennæ 13-jointed; the distal funicle joints more transverse than with *perflavipes*. Wings hyaline.

Habitat: Dandenong Range, Victoria.

Type: No. *Hy 1180*, Queensland Museum, Brisbane.

One female, South Brighton, Victoria, "41. Nat. Mus., Victoria."

18. CHALCIS REGINA (Girault). Male.

Tumidicoxa regina Girault.

Length, 4.95 mm.

Like *perflavipes* but more robust, the scutellum terminating in a distinctly bidentate plate and the postmarginal vein longer. The scape is also longer. Posterior femur armed with twelve teeth, the first large, the next two very small, followed by seven larger ones (of which numbers 6 to 9 are longest) and two shorter ones, the last broad, its flat upper edge or apex emarginate; thus excluding the first tooth, numbers 6 to 9 are largest. In *perflavipes*, teeth numbers 2 and 3 are not distinctly smaller than the ones immediately following (distad).

Habitat: Brisbane, Queensland.

Type: No. *Hy 1181*, Queensland Museum, Brisbane.

I have a female of this species from the collections of the Queensland Museum at Brisbane labelled "Brisbane, May 24, 1911" and Mr. Edmund Jarvis, Assistant Government Entomologist, has sent me a female of the following new variety. The female of the typical form is colored like the male.

A. CHALCIS REGINA DENTATA new variety.

Like the typical form but the tegulæ dark, the postmarginal vein somewhat shorter, not distinctly twice the length of the stigmal, the hind femur beneath armed with about nine teeth, the first largest but not as large as in the typical form, subequal to teeth 4-7. Compared with type of typical form.

From the pupa of a moth (Pyraustinæ) on banana.

Habitat: Maria Creek, Northern Queensland.

Type: No. *Hy 3373*, Queensland Museum, Brisbane, the specimen on a tag, the antennæ on a slide.

19. CHALCIS RUBRIFEMUR (Girault). Female.

Pseudepitelia rubrifemur Girault.

Opaque black, the second abdominal segment glabrous black, the posterior femur dark reddish, the venter of the abdomen at the meson more or less suffused with dark reddish or yellowish; tegulæ pallid, the wings hyaline, the venation black. Face and distal half of the abdomen pubescent. Tarsi more or less brownish. Intermediate and cephalic knees and two distinct elongate spots on each end dorsad of the posterior tibia, and not at tip, pale golden yellowish. Antennæ wholly black, inserted nearly on a line with the ventral ends of the eyes; the scrobicular cavity reaching the cephalic ocellus, the lateral ocelli plainly more than their own diameter from the eye margins. Cephalic tibiæ with the entire cephalic aspect golden yellow.

Body moderately finely, densely punctate, the spaces between the punctures finely lined. Third abdominal segment with very minute punctures which vary in size, the following segments pubescent and transversely wrinkled, the penultimate segment rougher. Posterior femur armed beneath with six moderately large, more or less subequal teeth but the first largest, followed distad by four others which shorten in succession; densely punctulate, the punctures very minute. Antennæ with the distal joint very short, truncate, only about twice the length of the ring-joint; scape very long, narrowing distad; pedicel much longer than the ring-joint but only half the length of the proximal funicle joint which is longest of the funicle, twice the length (or nearly) of the subquadrate distal funicle joint. Proximal two joints of the club subequal, the distal joint flat, very short. Postmarginal vein about half the length of marginal, slender, the stigmal very short, yet with a distinct neck. Moderate to large.

Habitat: Cheltenham, Victoria.

Type: No. *Hy 1182*, Queensland Museum, Brisbane.

20. CHALCIS MULTICOLOR new name. Female.

Pseudepitelia tricolor Girault.

Length, 5 mm.

The same as *rubrifemur* but the postmarginal vein shorter and stouter; the second (distal) elongate pale yellowish spot exteriorly on posterior tibia absent but the two proximal tarsal joints (and less so, the third) of posterior legs white, suffused with yellowish; scutellum without pubescence and the third abdominal segment more roughly finely sculptured in this species. There are eleven distinct teeth on the posterior femur instead of the ten as in *rubrifemur*. Intermediate and cephalic tarsi white or whitish. (Antennæ missing; scape black.) Wings hyaline.

Habitat: Mt. Tambourine, Queensland. April 2, 1911 (H. Hacker).

Type: No. *Hy 1183*, Queensland Museum, Brisbane.

21. CHALCIS RUFICORNIS (Girault). Female.

Tumidicoxa ruficornis Girault.

Length, 2.75 mm.

Black, the antennæ wholly rufous, also the proximal half or more of the abdomen ventrad. Knees, cephalic tibiæ, proximal half or less of intermediate tibiæ and all tarsi yellowish; posterior femora with from 10 to 12 teeth beneath. All funicle joints wider than long. Plate of scutellum emarginate. Wings hyaline. Proximal third of abdomen dorsad rufous.

Habitat: Cairns, Queensland.

Type: No. *I. 1242*, South Australian Museum, Adelaide.

22. CHALCIS RUFIFEMUR (Girault). Male.

Tumidicoxa rufifemur Girault.

Length, 2.70 mm.

Black, the posterior femur bright red; tegulæ, knees, tarsi, much of cephalic tibiæ, tips of second tibiæ and two elongate spots on caudal tibiæ (one just ventrad of knee, one just dorsad of tip) lemon yellow. Wings hyaline, the venation black. Posterior femur with nine teeth beneath. Proximal club-joint subtransverse; first funicle joint longest of the funicle; pedicel small.

Habitat: Mittagong, New South Wales.

Type: No. *I. 1243*, South Australian Museum, Adelaide.

23. CHALCIS HERCULES (Girault). Male.

Tumidicoxa hercules Girault; *Pseudepitelia hercules* Girault.

Length, 7.85 mm. Large, robust.

Black; tegulæ except proximal margin or most of it, distal half or more of first two femora, the tibiæ and tarsi and tip (broadly) of hind femur golden yellow; hind tibiæ black just below knee. Fore wings distinctly infuscated, the venation black, the marginal vein long, over twice the length of the postmarginal. Scutellum with a strong bidentate plate at apex. Antennæ wholly black, the pedicel very small, wider than long, the funicle joints short, subquadrate. Second abdominal segment smooth and shining, the following segments microscopically sculptured. Thorax confluently punctate, the propodeum rugose. Hind femur with

about twelve teeth, the first five larger, subequal, the sixth and seventh confluent at base, small like the others following. Segments of abdomen with several rows of pin-punctures (dorso-laterad on 2).

Habitat: Kuranda, Queensland. From chrysalids of *Cethosia cydippe*, jungle, May.

Type: No. *Hy 3374*, Queensland Museum, Brisbane.

24. CHALCIS RUSKINI new species.

Female:—Length, 5 mm.

Similar to *rubrifemur* but the face along the antennæ, the vertex and all of the dorsal mesonotum bears noticeable but moderately sparse pubescence, the hind femur beneath with eleven teeth, the abdomen is red beneath centrally only. In this species the additional pubescence appears like fine down when seen from laterad (in outline), none noticeable on the scutellum proximad of the apical pubescence. The third abdominal segment in both species bears several rows of pin-punctures along cephalic margin followed by very fine punctures. Tip of club dark red.

Differs from *rufifemur* as far as can be told merely in having more teeth on the hind femur and in having the small amount of red on abdomen beneath. Compared with type of *rubrifemur*.

Described from two females, minutien-mounted, captured October 17, 1913 (H. Hacker).

Habitat: Brisbane, Queensland.

Types: No. *Hy 3375*, Queensland Museum, Brisbane, the above specimens (two pins).

Dedicated to John Ruskin.

25. CHALCIS BRISBANENSIS new species.

Female:—Length, 5 mm.

Black, the wings hyaline, the venation black; abdomen, hind coxa except at base dorso-laterad and hind femur blood red. Tegulæ, tarsi, distal third of cephalic femur, cephalic tibiæ, distal fourth of intermediate femur, intermediate tibiæ except broadly along the middle (except narrowly along one edge) and hind tibiæ except above at base and still more broadly along the middle portion, lemon-yellow. A lemon-yellow spot on extreme apex (dorsad) of hind femur. Face below antennæ, cheeks, metapleura just above hind coxa and apex of scutellum with shining white pubescence; scutellum terminating in two distinct obtuse teeth. Hind femur beneath with twelve teeth, none large, the first largest, the last three or four very small, the rest subequal. Postmarginal vein thrice the length of the stigmal, the marginal over twice the length of the postmarginal. Propodeum coarsely foveate, the spiracle enormous, like a large slit, curved, five or more times longer than broad at the end, narrowest at the middle. Pedicel very short, cupshaped; funicle 1 longest, longer than wide, 2 only slightly so, other joints of funicle gradually shortening.

Described from one female, minutien-mounted, captured November 24, 1913 (H. Hacker).

Habitat: Brisbane, Queensland.

Type: No. *Hy 3376*, Queensland Museum, Brisbane, the above specimen and an antenna on a slide.

One female, Halifax, April 2, 1914 (A. P. Dodd). One femur bore eleven teeth, the other only nine. Compared with type.

26. CHALCIS DIPTEROPHAGA new species of Girault and Dodd. Male.

Length, 4 mm.

Black; hind coxæ and femora blood red, the abdomen suffused with red at base ventrad; the following parts yellowish white—a spot at apex of hind femora, a narrow elongate area at

apex of basal third and all apical third (except the black inner margin) of hind tibiæ outwardly, all tarsi (except apical joint), apex of first two pairs of femora and base and apex of first two pairs of tibiæ and the tegulæ. Wings hyaline, the venation blackish, the postmarginal vein nearly twice as long as the stigmal, the marginal vein fully twice as long as the postmarginal. Plate of scutellum distinctly bidentate. Second abdominal segment occupying over half of the surface. Pedicel small, the ring-joint transverse, the first funicle joint a little longer than wide, the others much wider than long.

Habitat: Kuranda, Queensland. Reared in February, 1914, from a dipterous puparium.

Type: No. *Hy 3377*, Queensland Museum, Brisbane, the female on a tag, the antenna on a slide.

27. CHALCIS AUREA (Girault).

Pseudepitelia aurea Girault.

Length, 7 mm. Robust.

Black and punctate, the body with a conspicuous, hispid golden-coppery pubescence, seen from above forming a halo around the scutellum, a spot on each parapside cephalo-mesad and a large area on each side of the meson of pronotum; the large second abdominal segment bare excepting for a clump of the pubescence in the dorso-lateral aspect caudad; other abdominal segments densely hispid, forming broad transverse rows of reclining hairs. Tegulæ yellowish, reddish cephalo-mesad. First two pairs of legs reddish brown, the knees, tips of tibiæ and proximal four tarsal joints (more or less) lemon yellow; caudal coxa black, its femur blood red excepting a large rounded oval black spot in the lateral aspect centrally in the ventral longitudinal half and a small lemon-yellow spot same aspect, at ventral margin just before extreme tip. Caudal tibiæ bright lemon-yellow except some reddish at base and the narrow black latero-ventral margin. Hind coxa above polished, beneath downy or pilose; second abdominal segment also polished except for the clump of pubescence. Propodeum rugose. Scape and pedicel blood red, rest of antenna black. Hind femur with one moderately long tooth, followed by about from 10-11 others somewhat smaller, the last two or three much smaller. Fore wings uniformly greyish or smoky, the stigmal vein less than half the length of the postmarginal. Scrobes reaching the cephalic ocellus, the lateral ocelli distant from the eyes. Antennæ with the ring-joint very short.

Habitat: Kuranda, Queensland. From pupa of *Dielis mysis*, June 22, 1913 (F. P. Dodd).

Type: No. *Hy 3378*, Queensland Museum, Brisbane, the female minutien-mounted, the antennæ on a slide.

28. CHALCIS ROBUSTA new species.

Female:—Length, 6 mm.

Like *albitegula* but the black separating the first elongate white spot on caudal tibia dorsad is somewhat longer, the plate at apex of scutellum is plainly emarginate, the middle portion of proximal half of scutellum is not glabrous as in that species but only the median line is so narrowly, the caudal femora ventrad bear but eight teeth, the first three widely separated, short, obtuse, the distal four small, acute, close together before apex and forming a decreasing series, the last minute. Also the postmarginal vein is a little more than twice the length of the stigmal, the wings are hyaline, the apex of scutellum and the axillæ are more noticeably pubescent and segment 3 of abdomen along cephalic margin bears about two cross-rows (3-4 in *albitegula*) of fine pin-punctures, the rest of the segment back of these rows densely perpunctulate (smooth in *albitegula*). Segment 3 of abdomen in both species conspicuously pubescent laterad, the following segments also with silvery pubescence across them. Pedicel wider than long; funicle 1 somewhat longer than wide, the last two funicle

joints subquadrate. The broad black band around centre of first two tibiæ open along lateral aspect. Compared with type of *albitegula*.

From one female caught March 29, 1914 (A. P. Dodd).

Habitat: Halifax (Ingham), Queensland.

Type: No. *Hy 3379*, Queensland Museum, Brisbane, the specimen on a tag.

A. CHALCIS ROBUSTA BOREALIS new variety.

Same as the typical form but the hind femur beneath with ten teeth, the last minute. From a specimen sent by G. F. Hill from Port Darwin, Northern Territory; no type.

29. CHALCIS BROWNINGI new species.

Female:—Length, 4.95 mm.

Black and closely allied with *multicolor, dipterophaga* and *ruskini*. From the former it may be distinguished by the differently colored legs (also the hind tibia is black to tip in *multicolor*, the proximal elongate spot separated from the knees by black; here, distad the hind tibiæ are broadly yellowish white and also the proximal end, in other words, the two usual elongate spots exteriorly extend to their respective apices); also in *multicolor* the teeth on the scutellum are longer and segment 2 of abdomen dorsad is glabrous. From *dipterophaga* this species differs in that the proximal spot on dorsal caudal tibia reaches the knee, not isolated from the knee as in that species, the scutellum is less emarginate at apex, the main coloration of the legs is different and so on. From *ruskini* in the same particulars enumerated for *dipterophaga* except that in *ruskini* the scutellum at apex is much as in this new species. The species *ruskini* also lacks sculpture on segment 2 of abdomen dorsad. Legs except the concolorous coxæ, brick red, the knees, each end of tibiæ (very broadly in caudal tibiæ) and the tarsi pale yellow; tegulæ white. Club suffused with red. Otherwise black. Segment 2 of abdomen polygonally scaly, also the following segments (but the sculpture consisting of dense, minute, pin-punctures) each of which bears several rows of setigerous, thimble punctures; segment 7 with many of these punctures, 8 carinate along the meson. Propodeum foveate, with a pair of distinct median carinæ. Hind femur with eleven teeth ventrad, the first twice or more the size of the others but not especially large, the last four minute, comblike. Second tooth on hind femur next smallest after the distal four. Hind coxæ reddish ventro-distad. Abdomen slightly reddish along meson of venter. Funicle joints wider than long except the first which is a little longer than wide; distal funicle joints widest and shortest. Funicle 2 quadrate, somewhat longer than the pedicel. Postmarginal vein about twice the length of the stigmal; less than half the length of the marginal.

From one male and one female labelled "1-2-14. No. 33. G. F. Hill," and stated to have been captured.

Habitat: Port Darwin, Northern Territory.

Types: No. *Hy 3380*, Queensland Museum, Brisbane, one male, one female on a tag, the female antenna on a slide with type appendages of *Stomatoceras hazlitti*.

30. CHALCIS SHELLEYI new species.

Female:—Length, 2.50 mm.

Exactly similar to *browningi* but smaller, segment 2 of abdomen dorsad is glabrous and the apex of scutellum truncate. Funicle 1 a little wider than long, the others still wider.

From one female captured April 18, 1914 in forest (A. P. Dodd).

Habitat: Cloncurry, Queensland.

Type: No. *Hy 3381*, Queensland Museum, Brisbane, the female on a tag.

Dedicated to Percy Bysshe Shelley.

31. CHALCIS CURTISI new species.

Female:—Length, 4 mm.

Very similar to *browningi* but the tegulæ are reddish cephalad, the first two pairs of femora are black instead of pale red, the first two pairs of tibiæ are dark reddish, the elongate spots on hind tibiæ dorsad are narrowly separated from each other by the red. The plate at apex of scutellum is practically straight, the first narrow piece of mesopleurum is wholly punctate (partly glabrous in *browningi*). Hind femur with nine teeth ventrad, the second very minute, also the last four, none large. Segment 2 of abdomen dorsad glabrous. Funicle 1 a little longer than wide, the others shortening. Abdomen wholly black.

From a female from the Queensland Museum collections, captured April 7, 1913 (H. Hacker).

Habitat: Brisbane, Queensland.

Type: No. *Hy 3382*, Queensland Museum, Brisbane, one female on a tag

Dedicated to George William Curtis.

DIAGNOSIS OF THE AUSTRALIAN SPECIES OF *CHALCIS* FABRICIUS.

(Omitting Walker's species. Types of my own species have been re-examined.)

(Additions and corrections to the descriptions are given in the table.)

Black. The species are all about the same in sculpture. The apex of the plate of the scutellum may be truncate or bidentate.

Antennæ wholly red.

Knees, cephalic tibiæ, proximal half of middle tibiæ and all tarsi golden yellow; proximal half of ventral abdomen and proximal third dorsad, red .. .. *ruficornis* Girault.

Antennæ not wholly red.

Scape and pedicel red, rest of antenna black. Wings infuscated.

Knees, tips of tibiæ, caudal tibiæ and tarsi yellow; caudal femur red but with a large black spot laterad centrally and a small yellow spot ventrad near tip; first two pairs of legs pale reddish brown. Body with a conspicuous golden coppery pubescence. Caudal tibia reddish at base, the caudal femur exteriorly finely punctulate. Mesopleurum transversely striate but caudo-ventrad punctulate, caudo-dorsad with a glabrous area .. .. *aurea* Girault.

Antennæ red except scape.

Abdomen wholly red.

Distal third of first two pairs of femora, the tegulæ, a rounded spot at apex of caudal femur laterad, a distinct long-oval spot at tip of caudal tibia (distal third nearly) and the knees, pale yellow; caudal legs nearly entirely, all tarsi and cephalic tibiæ except at base, red. Postmarginal vein just twice the length of the stigmal. Middle tibiæ fuscous except at each end .. .. (male) *rubriventris* Girault.

Antennæ wholly black, the body or legs marked with red.

Abdomen red.

Tegulæ, tarsi, distal third of cephalic femur, cephalic tibiæ (except mesad), distal fourth of middle femur, middle tibiæ except broadly at center, yellow. Caudal coxa (except at base) and caudal femur, red. All tibiæ pale red; red intervenes between the black and yellow of the first two pairs of femora. Segment 3 of abdomen with several rows of minute punctures cephalad, caudad very finely punctulate; segment 2 polished but with a group of very minute punctures dorso-laterad of middle. Segment 7 entirely hairy .. .. *brisbanensis* Girault.

Abdomen black.

Caudal coxæ red or nearly all so.

Abdomen suffused with red at base ventrad; caudal femur red; a spot at apex of caudal femur, distal third dorsad and an elongate spot at apex of proximal third dorsad of hind tibiæ, knees of first two pairs of legs, tarsi, tips of first two pairs of tibiæ and the tegulæ, yellowish white. Cephalic tibiæ dark reddish yellowish, white narrowly along the whole of dorsal aspect. Wings a little infuscated throughout. Segment 3 and distad of dorsal abdomen, showing fine sculpture, faint. Teeth at apex of scutellum well formed. Hind femur beneath with ten teeth, the last four connate .. .. *dipterophaga* Girault and Dodd.

Caudal coxæ black or mostly all so.

Caudal femur red.

Caudal tibiæ black and yellow.

First two pairs of knees, tips of first two tibiæ and two elongate spots on caudal tibiæ, one on each end, yellow; entire cephalic aspect of cephalic tibiæ golden yellow. Caudal femur with eleven teeth .. *ruskini* Girault.

The same, caudal femur ventrad with ten teeth. Abdomen sculptured as in *brisbanensis*; segment 7 wholly punctate .. .. *rubrifemur* Girault.

The same but the second elongate spot on hind tibiæ absent *multicolor* Girault.

Tegulæ, knees, tarsi, cephalic tibiæ except dorsal aspect, tips of middle tibiæ and two elongate spots on caudal tibiæ yellow. Caudal femur with nine teeth beneath .. .. *rufifemur* Girault.

Caudal tibiæ red; marked with yellow or whitish.

Legs, except coxæ, red; knees, tips of tibiæ (broadly on caudal tibiæ) and the tarsi pale yellow; tegulæ white. Club suffused with reddish. Plate of scutellum at apex plainly emarginate .. *browningi* Girault; see *curtisi* Girault.

The same but apex of scutellum straight, the form small, the second segment of abdomen dorsad glabrous .. .. *shelleyi* Girault.

Caudal tibiæ wholly red. Plate at apex of scutellum straight.

Segments 2 and 3 of abdomen dorsad glabrous .. .. .. *rubripes* Girault.

Caudal femur red and black.

Caudal tibiæ in front (and both ends behind), middle knees and the tarsi, testaceous; caudal femur behind and upper two thirds, proximal and distal thirds of caudal tibiæ, red .. .. *froggatti* Cameron.

Antennæ wholly black, the body or legs marked with yellow or white.

Caudal femur all yellow.

Four cephalic knees, cephalic tibiæ cephalad and at each end caudad, testaceous; middle tarsi, caudal tibiæ near base and caudal tarsi white. Distal three fourths of tegula, white, rest black. Wings hyaline. Caudal femur with about ten teeth .. .. *tegularis* Cameron.

Caudal femur all black, yellow or white at apex.

Cephalic and middle tibiæ entirely bright yellow.

Tegulæ, tibiæ and tarsi (except base of caudal tibiæ), distal half of cephalic femur and distal third of middle femur, yellow. Caudal femur beneath with twelve teeth. Plate at apex of scutellum just a little emarginate. Apex of caudal femur yellow. Segment 2 of abdomen glabrous dorsad .. .. *perflavipes* Girault.

The same but apex of scutellum bidentate .. .. *regina* Girault.

The same but the wings infuscated, the form robust .. .. *hercules* Girault.

The same as *perflavipes* but the whole of cephalic femur except at base golden yellow .. .. *hypolycanæ* Girault.

Cephalic and middle tibiæ not wholly yellow.

Legs marked with yellow.

Knees, tips of tibiæ and the tarsi testaceous; a red spot below scape of each antenna. Conspicuously pubescent .. .. *atrata* Kirby.

Tibiæ golden yellow but cephalic ones reddish brown to black centrally (except dorsad), the middle black at proximal third and the caudal ones black centrally. Plate of scutellum bidentate. Segment 2 of abdomen dorsad scaly, 3 densely punctulate except cephalad .. .. *victoria* Girault.

Legs marked with white. See *robusta*.

Tegulæ, knees, central third of caudal tibiæ and the tarsi white. Apex of scutellum straight .. .. *pomonæ* Cameron.

Central part of caudal tibiæ black. Segment 2 of abdomen dorsad glabrous. Postmarginal vein not twice the length of the stigmal by a little. Scutellum glabrous along proximal meson .. .. *albitegula* Girault.

The genus *Tumidicoxa* was described as differing from *Chalcis* in having a more or less bidentate or emarginate plate at apex of scutellum and 12-jointed antennæ. The antennæ are 13-jointed, the third club joint very short. But *Pseudepitelia* Girault falls as a synonym of *Tumidicoxa* while *Brachepitelia* Girault, bearing 13-jointed antennæ instead of twelve as originally thought, falls as a synonym of *Chalcis*. All are the same. *Ceyxia* Girault is either a valid genus or else a subgenus of *Chalcis*. *Ceyxia* differs from *Chalcis* in having distinctly shorter antennal scrobes. Its antennæ are 13-jointed, not twelve as originally thought. *Tumidicoxoides* Girault is valid, differing from *Chalcis* in having the club plainly 2-jointed. These statements are made after carfully reconsidering these genera. The types of *Pseudepitelia* and *Brachepitelia* have been re-examined.

GENUS TUMIDICOXOIDES Girault.

Distinguished from *Chalcis* in having 12-jointed antennæ, the club 2-jointed and *conical* distad. The scutellum is distinctly bidentate at apex.

1. TUMIDICOXOIDES KURANDAENSIS Girault. Female. Genotype.

Length, 3.2 mm.

Black, the wings hyaline, the middle of the side of the second abdominal segment dark red; venation black, tegulæ white; cephalic and intermediate tibiæ and tarsi brown, the hind tibia black with a whitish spot above over half way between knee and middle and another near apex; the hind tarsi yellow-white, the last joint black; hind femur red, whitish across tip, bearing eight teeth, the first four widely separated, the others successive and smaller. Postmarginal vein longer than the stigmal but only about a third the length of the marginal. Punctate, the propodeum rugose. Funicle joint 1 longest, longer than the pedicel but not long. Mandibles bidentate.

Habitat: Kuranda, Queensland. Jungle, May 20, 1913.

Type: No. *Hy 3383*, Queensland Museum, Brisbane. Tag and a slide.

2. TUMIDICOXOIDES PULCHRIPES new species of Girault and A. P. Dodd.

Length, 2.60 mm.

Opaque black; cephalic coxæ concolorous; rest of legs, the tegulæ and the antennæ bright golden brown, the tarsi almost white. Posterior femora with about nine teeth, the first largest, second smallest, the others about subequal; teeth black. Head and thorax with

yellowish pubescence; second and third abdominal segments glabrous and shining. Plate on scutellum emarginate, faintly bidentate. Wings slightly stained, the venation black; stigmal vein short; postmarginal scarcely twice the length of the stigmal, scarcely one third the length of the marginal. Funicle 1 a little longer than wide, 2-7 subequal, about twice as wide as long; club 2-jointed.

Habitat: Upper Mulgrave River (Cairns), Queensland. Jungle, June 10, 1913.

Type: No. *Hy 3384*, Queensland Museum, Brisbane, the female on a tag, the head on a slide.

3. TUMIDICOXOIDES PAUCIPUNCTATUS new species.

Female:—Length, 4 mm.

Black, the wings hyaline, the venation black. The following parts pale yellow: Tegulæ, first two pairs of knees, apex of caudal femur dorsad, an elongate spot dorsad on caudal tibia less than its own length below knees, another at tip (distal third of caudal tibia dorsad), dorsal tips narrowly of cephalic tibiæ, broadly of middle tibiæ. The following parts watery red: Bulla of scape, distal third of cephalic femur, all tibiæ (except ventrad on caudal pair), caudal coxæ and femora; tarsi pinkish; ventral meson of abdomen before tip a little reddish. Antennæ clavate, compact, the funicle joints wider than long except 1 which is wider distad, as long as wide distad, a little longer than the pedicel. Differs from *kurandaensis* besides coloration, in having the punctuation of thorax sparser not dense as in that species, the plate at apex of scutellum only slightly emarginate, the hind femur beneath with eleven teeth, the dorsal abdomen shows scaly sculpture on segment 3 (not until after cephalic third of 7 in the other species). Both species bear a more or less distinct pair of median rugæ far apart on the propodeum and a curved ruga in the usual place of the lateral carina. Head densely punctate. Compared with type of *kurandaensis*. Scrobes reaching cephalic ocellus.

From one female captured by G. F. Hill.

Habitat: Port Darwin, Northern Territory.

Type: No. *Hy 3385*, Queensland Museum, Brisbane, the specimen minutien.

Subgenus TUMIDICOXELLA Girault.

The same as *Chalcis* Fabricius but the antennæ only 11-jointed; the plate of the scutellum not emarginate and inconspicuous. Second segment of abdomen occupying over half of that region.

1. TUMIDICOXELLA NIGRICOXA Girault. Female. Genotype.

Length, 3.10 mm.

Black and punctate, marked with red as follows: All of legs except coxæ and the cephalic and intermediate femora near base. Fore wings slightly stained. Posterior femur with eleven teeth beneath. Pedicel only half the length of the first funicle joint which is longest of the funicle, longer than wide, subequal in length to the club joint.

Habitat: Port Lincoln, South Australia.

Type: No. *I. 1244*, South Australian Museum, Adelaide.

2. TUMIDICOXELLA TASMANIENSIS Girault. Male.

Length, 3 mm.

The same as *nigricoxa* but the antennæ wholly black and the cephalic and intermediate femora are black farther distad, more than half black.

Habitat: Hobart, Tasmania.

Type: No. *I. 1245*, South Australian Museum, Adelaide.

3. TUMIDICOXELLA AUSTRALIENSIS Girault. Female.

Length, 2.85 mm.

Black, punctate, the tegulæ, knees and tarsi yellowish; wings hyaline. Posterior femur with nine teeth beneath, the ninth tooth very small; funicle 1 and club joint subequal; two elliptical lemon yellow spots on posterior tibiæ one just below knees, the other just before tip.

Habitat: National Park, New South Wales.

Type: No. *I. 1246,* South Australian Museum, Adelaide.

DIRRHINOMORPHA new genus of Girault and A. P. Dodd.

Male:—Head abnormal, deeply excavated in front with two horns somewhat as in the tribe Dirrhinini. Antennæ inserted above an imaginary line drawn across base of eyes; 13-jointed, one ring-joint, three club joints as in *Chalcis,* the third club joint small, truncate. Eyes large, bare. Pronotum distinctly visible from above, as wide as the mesonotum, much wider than long. Parapsidal furrows deep and distinct. Scutellum with a small, rounded plate. Abdomen no longer than the thorax, the second segment occupying rather more than half the length. Marginal vein three times as long as the postmarginal, the latter longer than the stigmal. Posterior femora with about eight large teeth. Agreeing with *Chalcis* and differing only in the excavated and horned head. The horns are not so conspicuous from lateral aspect as in the Dirrhinini.

1. DIRRHINOMORPHA ANGUSTA new species of Girault and A. P. Dodd. Genotype.

Male:—Length, 8.25 mm.

Black; posterior coxæ and femora bright red; cephalic and intermediate tarsi and the knees golden yellow, a little suffused with dusky; cephalic tibiæ suffused with yellow; apical club joint of antennæ yellow. Fore wing with a large infuscated area round the marginal and postmarginal veins. Pedicel small and transverse; the ring-joint small; funicle 1 longer than wide; 2 somewhat shorter, 3-7 all wider than long; club distinctly longer than preceding joint, longer than wide. Second tooth on posterior femur very minute, the last also small. Head and thorax with large circular punctures; second abdominal segment with fine, polygonal scaly sculpture, the following segments with scattered punctures.

Described from one male caught on foliage of *Melaleuca,* October 12, 1913 (A. P. Dodd).

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 3386,* Queensland Museum, Brisbane, the specimen on a tag and a slide bearing the antennæ and a fore wing.

CHRYSOCHALCISSA new genus.

Like *Chalcis* Fabricius but small and compact like *Perilampus,* the body metallic, the scutellum quite simple. Head normal, metallic, the antennæ inserted slightly above the middle of the face, 13-jointed with two ring-joints, the club 3-jointed, the funicle joints with short, stout peduncles. Posterior femora armed beneath, finely denticulate proximad, then with many comblike teeth as in *Stomatoceras,* the last two of these confluent at base; no large teeth. Marginal vein nearly as long as the submarginal, the postmarginal twice the length of the short stigmal but only about a third the length of the marginal. Abdomen quite as in *Perilampus* but the third segment is very short. Punctation very fine and dense. (An indication of a minute fourth club joint present.)

1. CHRYSOCHALCISSA OLIVACEA new species. Male. Genotype.

Length, 1.75 mm.

Dark olive green with slight æneous tinges, especially on the head; wings hyaline; legs concolorous, the knees, much of cephalic tibia and all tarsi straw yellow; scape reddish brown,

rest of antenna black. Head and thorax finely scabrously punctate, the pronotum and mesonotum with a short, greyish pile. Venation sooty. Abdomen smooth but reticulated polygonally. Scape short; pedicel shorter than any of the funicle joints, which except the first, are wider than long, the first somewhat longer than wide; six funicle joints. Hind femur sculptured like the thorax, the hind coxa also and it is flat laterad.

Habitat: Little Mulgrave River (Cairns), Queensland. Jungle, June 7, 1913.

Type: No. *Hy 3387*, Queensland Museum, Brisbane, the male on a tag.

One male, Gordonvale, May 23, 1914. Forest.

MIROCHALCIS new genus.

Female:—Like *Chalcis* Fabricius but the hind femur at distal half (a little beyond) with a tooth inwardly somewhat ventrad of the middle, the hind tibiæ compressed, with only three sides, its margins carinated and mesad (inwardly) below knee with a large triangular, impressed plate with raised margins and forming an obtuse hump on the dorsal side. Antennæ 12-jointed with one ring-joint. Abdomen with only two dorsal segments, the others retracted within, the region globate. Hind femur at extreme apex prolonged laterad into an obtuse tooth on each side.

1. MIROCHALCIS ATRICORPUS new species. Genotype.

Female:—Length, 5.85 mm.

Black, the wings hyaline, the venation black, the tarsi brown. Postmarginal vein twice the length of the stigmal or nearly but less than half the length of the marginal. Scutellum rather deeply emarginated at apex. Head, thorax and abdomen clothed with a fine down, the head and thorax densely punctate, the propodeum rugose but with a more or less distinct median channel with carinated sides and including cross-carinæ; spiracle very long, slotlike, curved, the ends wider. Along cephalic margin of scutum, midway between meson and lateral margin, an obscure impunctate area densely scaly. Third segment of abdomen with several rows of pin-punctures cephalad, then very finely punctulate, the last segment (retracted) rather coarsely punctate (but not by far like the umbilicate punctures of the thorax). Segment 2 subglabrous, exceedingly finely punctulate. The pin-punctures on segment 3 are interrupted at the meson and spread laterad. Segment 2 occupying somwhat over half of the surface. Scape normal, the pedicel wider than long; funicle 1 distinctly longer than wide, 2 barely so, the distal funicle joint a little wider than long. Hind femur with ten moderate-sized teeth, more or less equal or gradating.

Described from one female captured on December 3, 1912 (H. Hacker). The label read "3-12-12."

Habitat: Stradbroke Island (Brisbane), Queensland.

Type: No. *Hy 3388*, Queensland Museum, Brisbane, the specimen on a tag, the antenna on a slide with the type antenna of *Chalcis brisbanensis* Girault.

MEGACHILOCHALCIS new genus.

Resembling the forms of certain bees. Antennæ 13-jointed with one very short ring-joint, inserted on a line with the ventral ends of the eyes, the club 2-jointed. Scutellum a little below apex with a stout upcurved spine projecting over the propodeum, the latter produced into a short, distinct, stout tooth on each caudo-lateral angle. Hind tibia straight, normal at tip. Postmarginal vein as long as the short marginal. Cephalic ocellus within the end of the scrobes. Hind femur beneath with a sloping convexity near tip which bears fine, comblike teeth as in *Stomatoceras*. Scutellum emarginate at meson of apex. Propodeum with two short, obtuse teeth on each side.

1. MEGACHILOCHALCIS AURICOMOSUS new species. Male. Genotype.

Length, 8.75 mm.

Black, the knees, tibiæ (except most of hind tibia), tarsi, scape and tegulæ blood red. Fore wings with a rectangular stigmate spot under all the marginal vein, smoky from thence distad to apex and also across the wing from marginal vein and beyond it. Propodeum with shining pubescence, also the face (dense), the abdomen above (except most of segment 2) with dense, rich golden yellow, hispid pubescence and there is a clump of this short pubescence from apex of each axilla, like two golden yellow spots on each side of the scutellum. Horn of scutellum curved near its tip, punctate. Thorax densely punctate; the naked portion of second abdominal segment irregularly densely pitted. Pedicel much wider than long; funicle stout, the joints all longer than wide, the first longest; second club joint longer, obtusely pointed. Antennæ tapering distad.

Habitat: Kewell, Western Victoria. April, 1888. Labelled "57."

Type: In the National Museum, Melbourne, the male minutien-mounted, the antennæ on a slide.

Genus MEGALOCOLUS Kirby.

1. MEGALOCOLUS RUFINOTUM Girault. Female.

Length, 8 mm., including the stylus.

Black, punctate; the venter of abdomen, mesal aspect, the legs (except the coxæ, proximal half or so of cephalic femur, interior of caudal tibia and the caudal femur) and the whole of the mesonotum (including scutellum and tegulæ) rufous; pedicel, first funicle joint and tip of club fuscous; fore wings irregularly stained, the venation fuscous or darker; staining accented at the stigmal vein, the latter nearly at right angles to the marginal and subequal to the short postmarginal. Posterior femur with seven teeth beneath, widely separated, the first large and obtuse, the last very small. Mandibles with two teeth, both acute but the inner broadly bevelled off mesad. The small first funicle joint longer than the pedicel which is cupshaped; second funicle joint longest, a third longer than 3 which is more than twice the size of the first. The lateral projection on the propodeum is absent.

Habitat: Cairns, Queensland.

Type: No. *I. 1239,* South Australian Museum, Adelaide.

Tribe HALTICHELLINI.

Genus HALTICHELLA Spinola.

1. HALTICHELLA FABRICATOR Walker. Female.

Haltichella fabricator Walker, Trans. Ent. Soc. Lond., I, p. 365, ♀ (1862).
Australia.

2. HALTICHELLA INDIGNATOR Walker. Female.

Haltichella indignator Walker, Trans. Ent. Soc. Lond., I, p. 369, ♀ (1862).
Tasmania, Australia.

3. HALTICHELLA INTERNATA Walker.

Haltichella internata Walker, Trans. Ent. Soc. Lond., I, p. 369 (1862).
Tasmania, Australia.

4. HALTICHELLA BICOLOR Ashmead. Female.

Length, 3.5 mm.

Head and thorax black, closely punctate and clothed with a sparse, silvery white pubescence; scape, legs and abdomen ferrugineous; flagellum long, filiform, cylindrical throughout, black. Head concave anteriorly; vertex transversely acute, anterior depression bounded by a delicate carina, the same extending across vertex and separating front ocellus from lateral ocelli. Wings hyaline, venation brown, postmarginal vein acute, longer than the stigmal vein. Hind femora much swollen and armed with numerous minute black teeth. Abdomen pointed, ovate, ovipositor subexserted.

Habitat: Australia.

Type: No. 4880, United States National Museum, Washington, D.C., U.S.A.

5. HALTICHELLA PARVULA new species of Girault and A. P. Dodd. Male.

Length, 1.50 mm.

Black; tibiæ suffused with yellow; tarsi golden yellow; antennal scape black, rest of antenna brownish yellow. Thorax with large, circular scattered punctures; scutellum simple. Abdomen not as long or as wide as the thorax, smooth; second segment occupying half the length, the third as long as the second, the others very small. Posterior coxæ not much smaller than the swollen femora, which have numerous fine teeth. Wings slightly clouded; marginal vein two and a half times longer than the stigmal which is rather short, the postmarginal not developed. Antennæ inserted near the mouth, 13-jointed, one ring-joint, three club joints; pedicel short, as wide as long; funicle joints about subequal, all a third longer than wide; club distinctly longer than the preceding joint, the third joint not small.

Habitat: Cairns, Queensland. Forest. December 24, 1913 (A.A.G.)

Type: No. *Hy 3389,* Queensland Museum, Brisbane, the female on a tag, the head on a slide.

6. HALTICHELLA STOKESI Crawford. Female; male.

Length, 5 mm. Black, lower margins of abdominal segments reddish brown; tegulæ and legs, including coxæ, red; head closely, coarsely punctured; facial excavation bounded by a carina, which includes anterior ocellus; carina at tip of antennal fossa situated just in front of anterior ocellus; pronotum sculptured about as head; mesonotum with somewhat finer punctures, separated by about a puncture's width; scutellum with an apical emarginate plate; propodeum with the lateral angles produced; mesopleuræ longitudinally rugose, posterior part of mesopleuræ, metapleuræ and sternum umbilicately rugoso-punctate; wings with a small infuscated spot covering marginal vein and extending about half way across wing; apicad of this a slightly smaller discal spot; postmarginal vein longer than the marginal; abdomen smooth, polished, the apical segments finely reticulately lineolated.

The male measures 4 mm. Similar to the female, the punctures of mesothorax closer; wings hyaline; front legs black, intermediate legs brownish black, posterior tibiæ with basal two thirds fuscous; all tarsi slightly lighter than their tibiæ.

Habitat: Glen Innes, New South Wales.

Type: Cat. No. *13,971,* United States National Museum, Washington, D.C., U.S.A.

GENUS TRICHOXENIA Kirby.

1. TRICHOXENIA CINERARIA (Walker). Genotype.

"*Haltichella cineraria* Walker, 1871, pt. iii., p. 45.

H. subfasciata Walk., described on the same page, appears to be only a smaller variety with paler wings. Both insects are from South Australia.

Antennæ inserted far below the eyes and near the mouth, 12-jointed; face deeply channelled as far back as the ocelli for the insertion of the scape; scape one fourth of the length

of the antennæ, dilated at the end; second joint small, third joint short, fourth longer, the remainder gradually diminishing in length, the last very small and conical; thorax scabrous, sutures ill-defined; scutellum armed behind with a short straight spine; metathorax with a short spine on each side; abdomen subsessile, very convex, the first segment covering almost half its length on the back; stylus unusually short and broad, hardly one fourth of the length of the abdomen; hind femora moderately swollen, unarmed but with a large rounded convexity at the base, beyond which they are slightly grooved for the reception of the tibiæ; wings variegated.'' (W. F. Kirby.)

GENUS HOCKERIA Walker.

1. HOCKERIA NYSSA Walker.

'' *Hockeria nyssa* Walker, Ent. Mag., V, p. 474 (1837).

Hockeria proxenus Walker, 1839, p. 8.

Habitat: Sydney; Tasmania.

Walker has placed the type of his *H. nyssa* and *proxenus* together as sexes, which appears likely to be correct, although they are from slightly different localities.'' (W. F. Kirby.)

2. HOCKERIA DEXIUS Walker. Male.

Hockeria dexius Walker, Ent. Monthly Mag., V, p. 473, ♂ (1838). Australia.

3. HOCKERIA ERACON Walker. Female.

Hockeria eracon Walker, Ent. Monthly Mag., V, p. 473, ♀ (1838).

GENUS STOMATOCERAS Kirby.

1. STOMATOCERAS VICTORIA Girault.

Length, 4.25 mm.

Black, somewhat shining; tegula, legs and basal half of abdomen ventrad (also latero-proximad), red, on the abdomen the reddish mixed with yellowish; scape (rest of antenna missing) black; fore wing with a smoky fascia across it at the marginal vein (accented at the vein so that only a half fascia is distinct) and a rounded smoky spot farther distad nearer the costal wing margin and about half way to the wing apex from the stigmal vein; otherwise both wings hyaline.

Body rather finely rugoso-punctate, the spaces between the punctures half smooth; lateral ocelli their own diameter from the eye margins or slightly more; scutellum terminating in two tooth-like plates, one on each side of the meson; abdomen finely reticulated; propodeum in the middle of the dorso-lateral aspect with one distinct platelike projection, another broader one indicated cephalad of it. Propodeum punctured like the rest of the thorax. Scape very long, bent at extreme tip, reaching to the cephalic ocellus which is at the apex of the channel-like scrobicular cavity. Body finely pubescent. Posterior femur without a large tooth ventrad, its ventral margin straight but pubescent and along the distal two thirds armed with a uniform series of minute, black, comblike teeth. Stylus of abdomen short. Postmarginal vein long. Apex of scape red. Corrected description.

Habitat: Cheltenham, Victoria.

Type: No. *Hy 1185*, Queensland Museum, Brisbane. Tag and slide.

2. STOMATOCERAS FASCIATIPENNIS Bingham. Female.

'' Head and thorax closely and evenly punctured. Clypeus and face below the base of the antennæ cribrate; face and front above the base of the antennæ deeply and widely vertically sulcate, the furrow bordered on each side and above, just below the vertex, by a

well-marked carina; scape of antennæ long about one third of the whole length of the latter, smooth but minutely pilose, flagellum simple, granulose, 10-jointed. Thorax: robust, pronotum margined anteriorly; scutellum large oval convex overhanging the median segment, bidentate at apex, posteriorly with a very narrow submarginal furrow or channel; median segment short, truncate, bearing on its posterior vertical face a median looped carina and two lateral oblique carinæ; wings hyaline with sub-basal and post-median broad transverse fuscous fasciæ; legs minutely pilose, posterior femora edged posteriorly with numerous extremely minute teeth. Abdomen subsessile smooth and shining, the basal abdominal segment as long as the rest united. Head, thorax and dorsal surface of abdomen black; apex of scape and of antennæ, tegulæ of wings, the legs, and sides and ventral surface of abdomen blood-red. Length, ♀ 5 mm. Exp. 8 mm.''

Habitat: Townsville, Queensland.

Type: Hope Department, Oxford, England.

Resembles very closely *S. victoria* but the marginal vein longer, plainly longer and both the subfascia distinctly longer, especially the distal one which extends distad half way to the apex. Also, the second abdominal segment is somewhat longer in *fasciatipennis*, the third and following segments short but (segments 3-5) nearly twice the length of the corresponding segments in *victoria*. Otherwise, the two much alike.

Among a small collection of Chalcidoidea given to me by Mr. F. P. Dodd, I found a species of *Stomatoceras* which agrees with the description of *S. fasciatipennis* Bingham. Also it was mounted on a card containing a flat lepidopterous cocoon, in general outline shaped like a spool, from which projected an empty pupal case and also a number of small ants. This card was labelled '' Townsville, Queensland, 20-5-02. F. P. Dodd.'' Thus, this specimen (a female) is from the type locality of the Binghamian species, agrees with the description and appears to be a part of the same material, since its insect associates agree with those denoted by F. P. Dodd. Comparing this specimen (which I have identified as *fasciatipennis* and deposited in the Queensland Museum at Brisbane) with *victoria*, the difference between them becomes more apparent and is as pointed out above.

In the original description this species is numbered 7 and reference to a connected paper by F. P. Dodd (Trans. Ent. Society of London, May 29, 1906, p. 123) shows that the specimen is '' from the pupæ of the case moth *Ardiosteres moretonella* Walk., the larvæ of which live in the nests of small black tree ants.'' The associated ants are stated to be *Cremastogaster læviceps* Smith.

A balsam slide bearing an antenna and a posterior leg goes with the card mount.

3. STOMATOCERAS NIGRISCAPUS Girault. Female.

Length, 4.50 mm.

Black, the posterior coxa and femur red as is also the second abdominal segment. Fore wings with a subrectangular fuscous dash half way across it from the marginal vein and an obscure fuscous area in the cephalic half of the wing half way to the apex from the stigmal vein. Marginal vein short, the stigmal very short, only about a fourth the length of the marginal; postmarginal vein somewhat longer than the marginal, twice the length of the stigmal; venation black. Posterior femora with the fine black teeth along distal half or slightly more. Last joint of antennal funicle somewhat longer than wide, more than half the length of the club, the first funicle joint about half the length of the pedicel, the second somewhat the longest, subequal to the pedicel. Otherwise as in other species. Corrected description.

Habitat: Gordonvale (Cairns), Queensland. Forest, December 4, 1912 (A. P. Dodd).

Type: No. *Hy 3390*, Queensland Museum, Brisbane. Tag and slide.

One female, Bribie Island, November 3, 1913 (H. Hacker). The tip of caudal femur was dark red and venter of segment 3 of abdomen.

4. STOMATOCERAS FUSCIPENNIS Girault. Female.

Length, 3.50 mm.

The same nearly as *hackeri* but differing from it as follows: The antennæ are red only up to and including the second funicle joint, the next joint only slightly suffused with it; the first funicle joint is much shorter and subquadrate, not half the length of the pedicel (longer than wide and over half the pedicel's length in *hackeri*). The fumation of the fore wing is nearly of the same pattern but much deeper, nearly black, the second stripe more compact and better delimited so that the clear area under the postmarginal vein stands out as a white spot. The abdomen is wholly black, the teeth at apex of scutellum more obtuse, the emargination less acute; the ventral margin of the posterior femur is less emarginate. The species *hackeri*, moreover, is much more robust. Also, the proximal half of caudal coxa is black in this species.

Habitat: Hambledon Junction (Cairns), Queensland. Forest, June 7, 1912

Type: No. *Hy 3391*, Queensland Museum, Brisbane. Tag and slide.

5. STOMATOCERAS HACKERI Girault. Female.

Length, 4.50 mm.

The same as *victoria* but the scape is also dark red, including also the long pedicel and the first two funicle joints (and a part of the third); the abdomen is reddish only along the median line of the venter; the fore wings bear the same general pattern (as regards fuscation) but they are more irregularly fumated, the two fumated areas less distinctly separated, especially caudad. The posterior femora beneath are toothed less farther proximad and the apical emargination (a convexity) is more pronounced (this crenulation of the margin should not be confused with the first tooth which is usually rather large in the family); also from between the fine black teeth, arise a series of solitary, erect, stiff but short bristles. Postmarginal vein long.

Habitat: Brisbane, Queensland. August 8, 1911 (H. Hacker).

Type: No. *Hy 1187*, Queensland Museum, Brisbane, minutien-mount and a slide.

6. STOMATOCERAS LEAI Girault. Female.

Length, 5 mm.

Wholly black; fore wings with a conspicuous deep black band across them from the marginal vein, distad of this band obscurely clouded; postmarginal vein slightly longer than the marginal. Plate on end of scutellum separated into two distinct, obtuse, platelike teeth. Comblike teeth along posterior femur extending along distal three fourths. Pedicel long somewhat longer than the funicle 1 which is rather long, 2 longest, about a third longer than 1, which is twice longer than wide. Two platelike teeth on dorso-lateral aspect of propodeum.

Habitat: Cairns, Queensland.

Type: No. *I. 1240*, South Australian Museum, Adelaide.

7. STOMATOCERAS AUSTRALIENSIS Girault. Female.

Length, 4.20 mm.

Black, the tarsi more or less suffused with reddish, the abdomen beneath ferrugineous except distad; tegulæ black. Marginal vein with a dark splotch under it, from the caudal end of which loops an obscure crescent of fuscous around to the costal margin (beyond the postmarginal vein which is longer than the marginal); wings otherwise hyaline. Teeth of caudal femur extending along distal two thirds; first funicle joint over half the length of the pedicel, the second funicle joint subequal to the pedicel and the club joint, longest of the funicle.

Habitat: Sydney, New South Wales.

Type: No. *I. 1241*, South Australian Museum, Adelaide.

One female labelled "40. Bacchus Marsh. Billingsworth, 9-7-06." The locality is near Melbourne. The specimen agrees in every detail with the original description. The scutellum bears at apex two separate teeth and the caudal of the usual two caudo-lateral teeth of the propodeum was longer than usual.

8. STOMATOCERAS TINEOPHAGUS Girault.

Length, 6 mm.

Closest to *australiensis* Girault but wholly black, only the tarsi somewhat suffused with reddish; also the fore wing is crossed by a distinct black stripe (fading somewhat caudad) from the marginal vein (accented under the vein) and the first funicle joint is subequal to the pedicel and nearly as long as the second funicle joint; a large convex, flaplike projection precedes the comblike teeth on the hind femur which extend three fourths the way to apex. Metathorax with a strong tooth in the middle of the dorso-lateral aspect, the scutellum ending in two distinct (separated) platelike teeth, smaller than the metathoracic tooth. Cephalic ocellus within the facial excavation. Punctures not confluent. Postmarginal vein subequal to the marginal.

Habitat: Townsville, Queensland. From pupa of a tineid associated with ants.

Type: No. *Hy 3392*, Queensland Museum, Brisbane. Card and a slide.

9. STOMATOCERAS NOVIFUSCIPENNIS Girault. Female.

Length, 5 mm.

Close to *fuscipennis* Girault but the antennæ are wholly black, the first funicle joint is plainly longer than wide yet only half the length of the pedicel, the fore wings are uniformly embrowned to tip from about middle of the submarginal vein but the rounded clear area is under the postmarginal vein which is longer than the marginal, the stigmal very short, only about half the length of the marginal. Abdomen and coxæ black, the rest of legs and the tegulæ dark red (but all femora for the most part black except at each end). Posterior wing dusky for over the distal third. Scutellum at apex emarginate at meson, the two teeth obtuse. Metathorax without teeth. Thoracic clothing inconspicuous. Teeth on hind femur extending about half way to base. Second funicle joint longest, subequal to the pedicel and the club joint which is not quite a half longer than the last joint of the funicle.

Habitat: Kuranda, Queensland. November.

Type: No. *Hy 3393*, Queensland Museum, Brisbane. Card and slide.

10. STOMATOCERAS AUREUS Girault.

Length, 6 mm.

Differing from the other Australian species in bearing a golden pubescence over the body, just back of the axillæ, a small clump being more conspicuous than the rest. Tegulæ large, honey yellow. Antennæ, legs (including hind coxæ, excluding a very large ovate spot on hind femur outwardly, appended from the upper margin and extending toward the lower margin which it parallels) and abdomen except distal third dorsad and (distinctly) a black border dorsad from base on each side to apex of proximal third, blood red. Fore wings embrowned from marginal vein to apex, the infumation accented under the marginal vein and interrupted by two clear areas, one just distad of marginal vein, the other caudo-distad of the first and longer than it (close to yet distinctly separated from it). Teeth of scutellum well-developed, separate. Hind wings hyaline. Abdomen oval. With the habitus of *Chalcis* but the antennæ inserted below ventral ends of eyes, though not much so. Teeth of hind femur not quite reaching to middle. Pedicel longer than next two funicle joints united; funicle joints 5-8 wider than long. Venation about as in *novifuscipennis.*

Habitat: Kuranda ?, Queensland.

Type: No. *Hy 3394*, Queensland Museum, Brisbane. Card and a slide.

11. STOMATOCERAS GRACILICORPUS new species.

Female:—Length, 3.68 mm.

Wholly black except venter of abdomen slightly at base of meson and first two antennal joints which are dark red; tarsi dark reddish. Fore wings with a sooty stripe across from the whole of the marginal vein fading caudad and a subisolated rounded stain midway between this stripe and apex, somewhat cephalad of middle. Postmarginal vein not quite as long as the marginal. Funicle 1 also reddish, slightly longer than wide, somewhat less than half the length of the pedicel; funicle 2 longest, distinctly not twice longer than wide, not quite as long as the pedicel, reddish at basal half. Articulations of the legs reddish. Antennæ may be nearly wholly black. Teeth of hind femur extending along distal half. Scutellum distinctly bidentate at apex, the two teeth not strong.

Described from two females captured from the foliage of an imported citron near the Mulgrave River, November 7, 1911.

Habitat: Nelson (Cairns), Queensland.

Types: No. *Hy 3395,* Queensland Museum, Brisbane, the above specimens together on a tag.

12. STOMATOCERAS VARIUS new species.

Female:—Length, 5 mm.

Very much like *nigriscapus* Girault but differing in that all of hind tibiæ and the ends of the other tibiæ are dark red; also all of the dorsal aspect of the second abdominal segment is black and the proximal half of the venter is red; also the blackish dash from the marginal vein is less regular, not extending half way across by far and from this there is a faint crescentic loop the distal end of which reaches the cephalic margin, nearly half way to the apex; also, the postmarginal vein is nearly as long as the marginal, over thrice the length of the stigmal. Teeth on propodeum as in *tenebricosus.* First funicle joint a little longer than half the length of the pedicel, the second funicle joint longest, longer than the pedicel. Also allied with *novifuscipennis* Girault but the wing fuscation and venation are totally different and the other details differ. Compared with types of allied species.

Described from one female caught by Mr. F. P. Dodd in October, 1913, on flowers.

Habitat: Kuranda (Cairns), Queensland.

Type: No. *Hy 3396,* Queensland Museum, Brisbane, the specimen on a tag, the antenna on a slide.

13. STOMATOCERAS TENEBRICOSUS new species of Girault and A. P. Dodd.

Female:—Length, 3.75 mm.

Black, slightly pubescent, the scutellum ending in two distinctly separated teeth. The following parts blood-red: Tegulæ, legs, pedicel and first funicle joint. Fore wings with a rather broad, black stripe across from whole of marginal vein and a second somewhat lighter stripe distad, leaving a white stripe between them which is about half or less the length of the first black stripe. Stigmal vein not a fourth the length of the marginal. Propodeum with a pair of median carinæ and two teeth dorso-laterad in a line, latero-mesad; also with a tuft of short white hairs on each side dorso-laterad; the acute median carinæ are separated by a deep sulcus. First funicle joint longer than wide, about half the length of the pedicel which is long; distal funicle joint a little longer than wide. Funicle joints 2 and 3 longest of the funicle, each somewhat shorter than the pedicel. Scape long and slender. Umbilicately punctate. Teeth on hind femora along a little over distal half.

Described from two females caught by Mr. F. P. Dodd in October, 1913, on flowers.

Habitat: Kuranda, Queensland.

Type: No. *Hy 3397,* Queensland Museum, Brisbane, one of the above specimens on a tag, the antennæ on a slide.

One female, Gordonvale, forest, April 27, 1914.

14. STOMATOCERAS UNMACULATUS new species.

Female:—Length, 5 mm.

Black, the following parts blood red: Pedicel, funicle 1, base of funicle 2, tegulæ, legs and all of abdomen except extreme tip of ovipositor valves and a dorsal, round black spot somewhat before tip (on segment 7). Pubescence slight except on sides of propodeum, the latter with a pair of separated median carinæ. Teeth at apex of scutellum very distinct, separate. Fore wings with a sooty crescent, one horn from whole of marginal vein, the other horn attaining cephalic margin beyond the postmarginal vein which is slightly longer than the marginal. Fore wing with a faint continuation of fuscous across from marginal vein. Pedicel subequal to funicle 2 which is distinctly longer than 1 but hardly longer than 3; club with an apparent division at proximal fourth (compare *tenebricosus* in regard to this). Teeth on hind femur along about distal two thirds.

Described from one female captured by Mr. F. P. Dodd in October, 1913, on flowers.

Habitat: Kuranda, Queensland.

Type: No. *Hy 3398*, Queensland Museum, Brisbane, the above specimen on a tag, the antennæ and a hind leg on a slide.

15. STOMATOCERAS PERAUSTRALIS new species.

Female:—Length, 5 mm.

Black, the following parts blood red: Tegula (suffused), hind coxa excepting for a spot above, all femora except dorsal aspect of first and last (the latter centrally black), the knees, tibiæ and tarsi; also distal half of second segment of abdomen above, mesal venter and tip of abdomen. Fore wing with a faint stripe across from the marginal vein (heavily accented under the vein) and a stain farther distad opposite the end of the postmarginal vein which is slightly longer than the marginal, the stigmal very short, a fourth or less the length of the marginal. Teeth at apex of scutellum separated. Propodeum usual. Hind wings clear, a little wider than long, less than half the length of the pedicel which is subequal to the second funicle joint.

Male:—Not known.

Described from one female, minutien-mounted, labelled "36. Dandenong. Bred from *Lim. longerans.*" The lateral aspect of segment 2 of the abdomen is blood red.

Habitat: Dandenong, Victoria.

Type: No. *Hy 3399*, Queensland Museum, Brisbane, the above specimen on a tag.

16. STOMATOCERAS COPIOSUS new species.

Female:—Length, 6.10 mm.

At once differing from *tenebricosus* in that the fore wings do not bear two distinct black stripes across them; similar to *victoria* but again differing in the fumation of the fore wing, the spots in *victoria* are clearly delimited, not so with this species; in *victoria* the abbreviated stripe from the marginal vein (not the stigmal as originally described) extends half way across and is longer than wide but in this species it is only a quarter of the way across and subquadrate; the distal spot here is more diffuse and less distinct, the distal part of the wing not clear. Pedicel and funicle 1 blood red (in addition to other parts as in *victoria*) but the tegulæ blackish. Postmarginal vein a little longer than the marginal and somewhat longer than in *victoria*. Differs from *fasciatipennis* Bingham in having the shorter stripe from the marginal vein, the red pedicel and first funicle joint, the second funicle joint longer than the pedicel, subequal in that species.

Described from one female, minutien-mounted, labelled "Windsor, 23.2.93." "29." Collections of the National Museum of Victoria.

Habitat: Victoria.

Type: No. *Hy 3400*, Queensland Museum, Brisbane, the above specimen.

17. STOMATOCERAS MINOR new species.

Female:—Length, 3.75 mm.

Black, the following parts red: Tegulæ, apex of scape, pedicel, funicles 1 and 2, tarsi, caudal tibiæ, all knees and tips of tibiæ. Base of funicle 3 reddish. Funicle 1 quadrate, 2 longest, somewhat longer than wide, a little shorter than the pedicel. Abdomen at base beneath reddish. Fore wings with the crescentic loop distinct, also the cross-stripe, the accentuation of the latter a little longer than wide. Teeth at apex of scutellum distinct, separate. Abdomen sculptured about as in *longicornis*.

From one female caught October 14, 1913 (H. Hacker) and in the collections of the Queensland Museum.

Habitat: Darra, Queensland.

Type: No. Hy *3401*, Queensland Museum, Brisbane, the female on a tag.

18. STOMATOCERAS BALLARATENSIS new species.

Female:—Length, 6.25 mm.

Similar to *nigriscapus* but differs at once in having the entire abdomen black except median line of venter centrally and the body more robust. Fore wing with only a subquadrate smoky marking against the marginal vein and a faint crescentic loop. Funicle 2 a little longer than the pedicel. Abdomen (dorsal aspect) scaly after segment 3, dorso-laterad with setigerous punctures on all the segments. Knees dark red. Teeth of scutellum very distinct.

From one female labelled "Ballarat, April 5, 1891. W. W. Froggatt."

Habitat: Ballarat, Victoria.

Type: No. *Hy 3402*, Queensland Museum, Brisbane, the specimen on a tag

19. STOMATOCERAS MAETERLINCKI new species.

Female:—Length, 5 mm.

Runs close to *copiosus* Girault and *tenebricosus* Girault and Dodd but differs from both in having the dorsal third of caudal coxa black and the first two pairs of coxæ wholly so. From *tenebricosus* notably in the infuscation of the fore wing, here like that of *copiosus* except that the cross-stripe from the marginal vein is distinct all the way across, the accented part longer than wide. Base of funicle 2 red (in addition to pedicel and funicle 1). Funicle 2 subequal to pedicel, 1 barely longer than wide. All three species with a dorsal median carina along segment 9 of abdomen.

From one female in the Queensland Museum collections caught September 28, 1913 (H. Hacker).

Habitat: Caloundra (Brisbane), Queensland.

Type: No. *3403*, Queensland Museum, Brisbane, the female minutien-mounted.

Dedicated to Maurice Maeterlinck.

20. STOMATOCERAS LONGICORNIS new species.

Female:—Length, 5.75 mm. Characterized by the longer antennæ; funicle 1 red and subequal to the pedicel; all funicle joints distinctly longer than wide, 2 and 3 longest, somewhat over twice longer than wide.

Black, the following parts blood red: Tegulæ, funicle 1, legs, abdomen dorsad at distal half of segment 2, segments 3 and 4 of abdomen except distal edge of 4, abdomen laterad same plus all of segment 2, abdomen ventrad to distal third. Teeth on caudal femur along proximal two thirds. Segment 9 of abdomen carinated along meson. Teeth at apex of scutellum very distinct, separate. Sculpture of abdomen about as in *maeterlincki* also the infuscation of the fore wing but the accented part under the marginal vein is a little wider than long.

Described from one female from the Queensland Museum collections, captured September 28, 1913 (H. Hacker).

Habitat: Caloundra (Brisbane), Queensland.

Type: No. Hy 3404, Queensland Museum, Brisbane, the specimen minutien-mounted.

21. STOMATOCERAS HAZLITTI new species.

Female:—Length, 5.25 mm.

Black, the following parts blood red: Scape, pedicel, funicle 1, base of funicle 2, legs except laterad on caudal femur a long black area along dorsal third and not extending to either end for some little distance, abdomen and tegulæ. Club orange-yellow, the distal funicle joint suffused a little with yellowish. Fore wings wholly brownish but a deeper stripe crosses from the whole of the marginal vein (accented under that vein), its accentuation giving off a crescentic loop to costal margin just distad of postmarginal vein; this loop incloses a subhyaline, rounded area and there is an elongate, narrow, subhyaline area centrally under the submarginal vein. Postmarginal vein subequal to the marginal but slenderer, the stigmal very short. Pubescence white, not conspicuous except a small clump just back of axilla, a clump on propodeum just dorsad of caudal coxa and on the metapleurum. Teeth at apex of scutellum well formed, separated. Punctate. Funicle 2 longest, somewhat shorter than the pedicel, 1 a third shorter than 2, somewhat longer than wide; funicle 3 a little shorter than 2; funicle 8 a little wider than long; club somewhat longer than the pedicel. Dorsad segment 2 of abdomen glabrous, the following segments finely scaly, 3 less distinctly so; segment 7 with numerous umbilicate punctures, 8 with a median carina; dorso-laterad, segments 3-6 with the umbilicate punctures in several rows, the punctures setigerous. Segment 2 dorso-laterad with scattered minute, setigerous pin-punctures. Propodeum with a pair of median carinæ well separated. The fine teeth of hind femur along distal three fourths.

From one female taken from the flowers of a Lupin, April 2, 1914 (A. P. Dodd).

Habitat: Halifax (Ingham), Queensland.

Type: No. Hy 3405, Queensland Museum, Brisbane, the female on a tag, the antenna and a fore wing on a slide.

Dedicated to William Hazlitt.

22. STOMATOCERAS OMPHALE new species.

Female:—Length, 5.25 mm.

In my table of species runs to *peraustralis* Girault but differs in that the legs are all red except the dorso-lateral end of caudal femur along distal third, the abdomen all black except venter and ventral half of sides at proximal half. Apex only of scape and the pedicel and first funicle joint dark red. Funicle 1 slightly longer than wide, 2 subequal to the pedicel, longest, nearly twice the length of 1. In addition to the black on caudal femur (and the color of antennæ), differs from *victoria* in that the distal spot on fore wing is connected with the cross-stripe from marginal vein at apex of the accented part (forming a semicircular loop), the latter shorter but longer than wide. Otherwise the same.

From one female captured November 19, 1913 (H. Hacker).

Habitat: Brisbane, Queensland.

Type: No. *Hy 3406*, Queensland Museum, Brisbane, the female on a tag.

23. STOMATOCERAS KIRBYI new species.

Female:—Length, 5.10 mm.

Very similar to *varius* Girault but the first legs are black except knees and tarsi which are red (most of cephalic tibia above dark red in *varius*), the upper side of second segment of abdomen is as in *varius*, the red on abdomen is confined to the ventral aspect; the tegulæ are black centrally; fore wings about the same, the marginal vein with a distinct subquadrate smoky area from it and from this area a faint crescentic loop distad to cephalic margin distad of venation. Propodeum with a pair of sharp median carinæ in both species. Segment 7 of abdomen with scattered, small thimble punctures; segments 4-6 minutely punctulate except meson of segment 4 (the same in *varius* but meson of segment 4 also punctuate). Segments 2 and 3 glabrous. Shoulders, metapleura, lateral axillæ and sides of middle abdomen with

noticeable pubescence. Knees red in both. Funicle 2 subequal to pedicel, 1 a little over half the length of the pedicel.

From one female captured by H. Hacker and from the collections of the Queensland Museum.

Habitat: Brisbane, Queensland.

Type: No. *Hy 3407*, Queensland Museum, Brisbane, the specimen on a tag.

Dedicated to W. F. Kirby.

The species *varius* has a distinct pair of carinæ across the short meson of pronotum and not close together; *nigriscapus* has the same faintly and so has *kirbyi*.

24. STOMATOCERAS RATZEBURGEI new species.

Female:—Length, 3.85 mm.

In the table of species runs to *hazlitti* but the abdomen is black and the hind coxæ except at distal third; the club is only slightly reddish at extreme tip; funicle 2 is all black. The large black area from dorsal edge of the caudal femur (laterad) is larger, extending nearly (three quarters) across to ventral edge (only about half way in *hazlitti*). Dorsad the abdomen shows no large shallow punctures until segment 7 and fine sculpture until segment 5. The fore wing differs in that the distal infuscated spot is not joined to that under the marginal vein so that no crescentic loop is formed and the infuscation under the marginal vein forms a complete, uniform, distinct cross-stripe, the accentuation under the marginal vein not pronounced; also the distal infuscation forms a second cross-stripe which, however, is incomplete caudad and narrowly so cephalad. The mesopleurum is transversely (longitudinally) striate in both species. Funicle 1 a little longer than wide.

From one female caught in October (F. P. Dodd).

Habitat: Kuranda, Queensland.

Type: No. *Hy 3408*, Queensland Museum, Brisbane, the specimen on a tag with type *hazlitti*.

Dedicated to Johann Christian Ratzeburg.

TABLE TO THE AUSTRALIAN SPECIES OF *STOMATOCERAS* KIRBY.

Females.

Species seen by me bear a deep median channel on propodeum with carinated margins and a distinct lateral ruga in the place usually occupied by true lateral carinæ, this ruga forking distad forming a more or less distinct Y. Also the distal segment of abdomen has a dorsal median carina except in *aureus*.

(Types of my species re-examined.)

Black species.

1. Legs blood red (excluding coxæ and tarsi).
   Scape blood red.
   - First two funicle joints blood red and a part of 3; coxæ red; abdomen red along median line of venter and side of base; funicle 1 plainly longer than wide; propodeum and abdomen as in *fuscipennis*. Punctures on cephalic mesal part of scutum smaller but quite as dense as those on pronotum. Scrobes finely transversely lined .. *hackeri* Girault.
   - First two funicle joints blood red; funicle 1 subquadrate; abdomen wholly black; propodeum with a deep median channel whose sides are carinated and closed at both ends; dorsal abdomen glabrous to segment 7. Hind coxæ black at proximal half. Punctures on cephalo-mesal part of scutum smaller and less dense than those of the pronotum .. .. *fuscipennis* Girault.

Scape black.

Apex of antennæ red; also sides and venter of abdomen; segments 3 and 4 of abdomen caudad (dorsal aspect) showing slight sculpture, 5 more, 6 all sculptured .. .. *fasciatipennis* Bingham.

Segment 9 of abdomen with a median carina. Proximal half of abdomen ventrad, also latero-proximad, blood red; segments 3-9 of abdomen scaly, commencing far laterad on 3 and gradually encroaching upon the meson .. .. .. *victoria* Girault.

Abdomen all black except at base beneath; pedicel and funicle 1 blood red; segments 5 and 6 (except along meson) and 7 of abdomen dorsad scaly, 7 with a number of large shallow punctures .. .. *tenebricosus* Girault and Dodd.

Abdomen all red except extreme tip of ovipositor valves and a large round spot dorsad just before tip of abdomen; pedicel, funicle 1 and base of funicle 2 red; dorsal abdomen sculptured as in *tenebricosus* but segment 4 is also scaly except along meson .. .. *unmaculatus* Girault.

As in *victoria* but tegulæ black centrally and the abbreviated stripe on wing from marginal vein is a half shorter and subquadrate. Pedicel and funicle 1 blood red. Segments of abdomen dorsad sculptured as in *unmaculatus* but segment 3 also has the scaly sculpture. Segment 9 of abdomen with a median carina .. .. .. *copiosus* Girault; see *longicornis* Girault.

2. Legs partly red (excluding tarsi and coxæ).

Body with a conspicuous golden pubescence. Coxæ red, the scape black. Segment 2 of abdomen occupying half the surface.

Tegulæ honey yellow; legs red excepting a very large, ovate spot on lateral aspect of hind femur; abdomen red except distal third dorsad (from segment 4, 2 occupying over half the surface). Abdomen as in *Chalcis*. Pedicel longer than funicles 1 and 2 united. Segments of abdomen after 2 with several cross-rows of setigerous punctures, the latter becoming larger and denser on distal segments .. .. *aureus* Girault.

Body not so clothed. First two pairs of coxæ black.

Scape black.

Caudal coxæ and femora blood red, also segment 2 of abdomen; funicle 1 about half the length of the pedicel; dorsal abdomen sculptured as in *aureus* but the segments are also scaly, the punctures very minute on first several segments (3 on) .. *nigriscapus* Girault; see *ballaratensis* Girault.

All coxæ black and most of each femur; abdomen black; fore wings nearly uniformly embrowned from about middle of submarginal vein; scaly sculpture of abdomen showing after segment 2 but at first only dorso-laterad .. .. *novifuscipennis* Girault; see *minor* Girault.

Like *nigriscapus* but tips of tibiæ (all of hind tibiæ) are red; segment 2 of abdomen black in the dorsal aspect; proximal half of abdomen ventrad red; cephalic tibiæ red above .. .. *kirbyi* Girault; see *varius* Girault.

Legs red except first two pairs of coxæ, a spot above on hind coxa and dorsal aspect of cephalic and caudal femora centrally; tip of abdomen, mesal venter of same and distal half of segment 2 dorsad, red. Sculpture of abdomen as in *novifuscipennis* and *varius* .. .. *peraustralis* Girault; see *omphale* Girault, *maeterlincki* Girault.

Scape red. Segments of abdomen showing scaliness and a row of large flat punctures from 2 distad, at first only laterad.

Pedicel, funicle 1, base of funicle 2, legs except a long black area on caudal femur laterad, abdomen and tegulæ red; club yellow; segment 2 of abdomen occupying half of surface. Segment 7 with three rows of large punctures .. .. .. *hazlitti* Girault; see *ratzeburgei* Girault.

3. Legs all black except tarsi.

Wholly black, the fore wing with a black cross-stripe from marginal vein; abdomen sculptured as in *hazlitti* .. .. *tincophagus* Girault. Compare *leai* Girault.

Abdomen ferrugineous ventrad except distad; a dark splotch under marginal vein and from the caudal end of which loops an obscure crescent; postmarginal vein distinctly longer than the marginal .. .. *australiensis* Girault.

Wholly black except base of abdomen ventrad and scape, pedicel and funicle 1; also leg articulations. Fore wings without a crescentic loop; pronotum with the carinæ as in *varius* .. .. *gracilicorpus* Girault.

The sculpture of the various species is very similar.

Genus STOMATOCEROIDES Girault.

Similar to *Stomatoceras* Kirby but the postmarginal vein well developed, longer than the short marginal, four times the length of the stigmal and slender. Antennæ 11-jointed, inserted below the ventral ends of the eyes, the club solid, only slightly shorter than the long proximal funicle joint (a third shorter); scape simple, long; pedicel short; flagellum cylindrical, *one ring-joint*. Posterior femur without large teeth beneath but its ventral margin may be straight, crenulate or wavy, there usually being three sloping convexities, the distal two bearing a continuous series of minute, black, comblike teeth (along the distal half of the margin). Scutellum terminating in a small, bidentate plate. Metathorax with no dorso-lateral projections. Vertex very thin, the cephalic ocellus within the scrobicular cavity, the lateral ocelli distant from the eye margins. Pronotum thin mesad, broadening laterad. Abdomen ovate, not produced distad, normal, the second segment largest. Propodeum with at least one small dorso-lateral tooth. The scrobicular cavity extends nearly to the occipital margin, thus the vertex acute or like a transverse carina along the occipital margin, the lateral ocelli are not within the scrobicular groove but between its lateral margins, the eye and the two occipital margins, meso-caudad of the eye; the cephalic ocellus, however, just at the apex of the cavity. Propodeum as in *Stomatoceras*; also abdomen.

1. STOMATOCEROIDES BICOLOR Girault. Female. Genotype.

Length, 4.10 mm.

Opaque black, the legs dark reddish excepting nearly the whole of the upper margin of the posterior femur, the coxæ, the proximal halves of the tibiæ and the same portions of the cephalic and intermediate femora, all of which are black. Venation brown, the fore wings with a distinct, rounded brownish spot under the marginal vein (against it) and with a larger stain distad, more or less obscure and cephalad. Head and thorax rugoso-punctate, the spaces between the punctures with fine grooves, the abdomen finely, densely polygonally reticulated but the second segment smooth and shining. Antennæ wholly black, the distal two funicle joints subequal, each slightly less than half the length of the proximal funicle joint.

Habitat: Dandenong Range, Victoria.

Type: No. *Hy 1186*, Queensland Museum, Brisbane. Card and two slides.

2. STOMATOCEROIDES NIGRICORNIS Girault. Female.

Length, 4.1 mm. Slender.

Opaque black, the base of the abdomen shining, marked with dark red (garnet) as follows: The tegulæ, tarsi, knees, tips of tibiæ and a spot at base of posterior femur (ventrad and exteriorly). Fore wings with two obscure brownish cross-bands, one at the marginal vein and the other nearly half way from there to apex; the first accented under the marginal vein, the second more noticeable a short distance out from the costal margin. Venation black. Rugoso-punctate, the abdomen distad with fine polygonal reticulation.

Habitat: Brisbane, Queensland.

Type: No. *Hy 1188*, Queensland Museum, Brisbane. Minutien-mount and a slide.

3. STOMATOCEROIDES VERSICOLOR Girault. Female.

Length, 4 mm. More robust than the preceding.

Opaque black, the proximal half of the abdomen and the caudal coxa and femur contrasting, bright orange yellow with some reddish mixed in; legs otherwise black, the knees brownish; antennæ black; tegulæ black. Wings opaque, the venation dark, the marginal vein with a very distinct, subelongate dark brown spot under it which does not tend to cross the wing but is wider (proximo-distad) than long (cephalo-caudad). Stigmal vein curved slightly cephalad, the body more robust than in the type species, the antennæ much the same but the posterior femora beneath with the fine, black, comblike teeth only along the distal third.

Habitat: Brisbane, Queensland.

Type: No. *Hy 1189*, Queensland Museum, Brisbane. Minutien and a slide.

4. STOMATOCEROIDES NIGRIPES Girault. Female.

Length, 5 mm.

Opaque black, the tarsi fuscous, the wings hyaline, the venation dark with only a trace of staining under it. Like *versicolor* but the teeth of the posterior femur along as much as the distal two thirds of the ventral margin. Antennæ as in the other species but the funicle joints are longer.

Habitat: Townsville, Queensland. From pupa of "red ant moth," 7-11-03.

Type: No. *Hy 1190*, Queensland Museum, Brisbane. Card and a slide.

5. STOMATOCEROIDES NIGRICORPUS Girault. Female.

Length, 3.20 mm.

Black, the wings hyaline and opaque with the exception of a small, subtriangular fuscous spot under the marginal vein. Differs from *nigripes* in being more slender and shorter, in having the spot on fore wing and in the caudal femur; the teeth on the latter in *nigripes* running farther proximad while in this species they run only to middle; also a marked convexity distad beneath, only indicated in *nigripes*. Antennæ in both species much alike. Differing from other species in coloration. Propodeum with two median carinæ, which are some distance from each other.

Habitat: Gordonvale (Cairns), Queensland. Forest, December 5, 1912.

Type: No. *Hy 3409*, Queensland Museum, Brisbane. Two tags and a slide.

6. STOMATOCEROIDES RUBRIPES Girault. Female.

Length, 3.75 mm.

Nearest in color pattern to *bicolor* but legs red excepting coxæ (posterior coxæ reddish distad) and the cephalic femur (the intermediate femur slightly blackened in middle); tegulæ also red. Moreover, the distal funicle joint is longer in this species as is also the marginal vein; stain under the latter small, not conspicuous and no second stain distad. Ventral margin of posterior femur nearly straight, not distinctly wavy as in *bicolor*. Black. Posterior coxæ may be nearly black, or nearly all red; other legs may be wholly red except coxæ.

Habitat: Hambledon Junction and Cairns, Queensland. Forest. June.

Type: No. *Hy 3410*, Queensland Museum, Brisbane. Tag and slide.

7. STOMATOCEROIDES FUSCIPENNIS Girault. Male.

Length, 2.85 mm.

Nearest to *bicolor* and *nigricornis* but at once distinguished by having the fore wings deeply, nearly uniformly infuscated (sooty) from a little before the marginal vein distad to apex; the legs are black except knees, tips of tibiæ, base of posterior femur and the tarsi which are dark red; tegulæ dark red. Propodeum rugose, with a deep longitudinal basin or trough down the meson but not quite to apex, the edges of this trough carinated and its bottom rough. The umbilicate punctures of mesonotum adjoining one to the other, the abdomen with the second segment smooth and shining (its immediate base above coriaceous), following segments with a fine scaly sculpture. Ring-joint very short. Teeth on posterior femur running to the middle.

Habitat: Gordonvale (Cairns), Queensland. Jungle, May 11, 1913.

Type: No. *Hy 3411*, Queensland Museum, Brisbane. Tag and a slide.

8. STOMATOCEROIDES INSULARIS Girault. Female.

Length, 2 mm.

Like *nigripes* Girault but much smaller and the club joint divided into two or else the distal two antennal joints (the last funicle and the club) are equal and much shorter than usual, each equal to about a little over half the proximal joint of funicle. Wings hyaline. Tegulæ black.

Habitat: Magnetic Island (Townsville), Queensland. Forest, January 19.

Type: No. *Hy 3412*, Queensland Museum, Brisbane. Tag and slide.

9. STOMATOCEROIDES INSIPIENS new species.

Male:—Length, 3.50 mm.

Black marked with garnet as follows: Tegulæ, third abdominal segment above, the second laterally and ventrally, knees, tibiæ, tarsi, second and third coxæ and hind femur, the latter with the comblike teeth only along distal half; hind coxa blackish ventrad. Scutellum terminating in an immarginate plate or the teeth joined along base. Antennæ 11-jointed, wholly black; joint 1 of funicle longest, joint 2 subequal to club which is a third longer than the distal funicle joint. Wings hyaline, the postmarginal vein a little longer than the marginal and narrower.

From a single male labelled "No. 10. From moth. Jan. 29, 1913. G. F. Hill."

Habitat: Port Darwin, Northern Territory.

Type: No. *Hy 3413*, Queensland Museum, Brisbane, the specimen on a card, the antennæ and hind femur on a slide.

In *bicolor, rubripes, nigricorpus, versicolor, nigricornis* and *nigripes* the abdominal segments after 2 distinctly reticulated except along cephalic margin; also with several rows of more or less obscure punctures (very distinct in *nigripes*). *Rubripes* is distinctly more densely punctate than *bicolor* which is less so than any of the species. In *fuscipennis*, no sculpture on segment 3 of abdomen, dorsal aspect. The genus differs notably from *Stomatoceras* only in possessing a true ring-joint.

PROCONURA new genus of A. P. Dodd.

Female:—Antennæ inserted against the mouth, 11-jointed, without a ring-joint, the club solid, the pedicel longer than any of the funicle joints. Thorax scaly and with deep circular umbilicate punctures. Scutellum unarmed. Propodeum rather long, rugose, with lateral carinæ and a pair of median carinæ, the latter well separated by a sulcus. Abdomen pointed conic-ovate, gently convex dorsad and ventrad, no longer than the thorax, the second segment occupying a third of the surface, the third as long as the second, the others short and subequal. Posterior femora much swollen and finely denticulate ventrad. Wings hyaline; marginal and stigmal veins minute, the postmarginal vein absent.

1. PROCONURA POLITIVENTRIS new species of A. P. Dodd and A. A. Girault.
Genotype.

Female:—Length, 2.20 mm.

Black, the tarsi (except two apical joints) and apex of tibiæ reddish yellow, the antennæ slightly washed with ferrugineous. First funicle joint smaller than the others, which are subquadrate, as wide or wider than long; club no wider than funicle and over twice as long as wide. Abdomen smooth and polished, the third segment with dense polygonal scaly sculpture, the apical segments with faint pubescence.

From one female caught in forest, December 27, 1912 (A.A.G.).

Habitat: Capeville (Pentland), Queensland.

Type: No. *Hy 3414*, Queensland Museum, Brisbane, the specimen on a tag, the head and hind femora on a slide.

GENUS IRICHOHALTICHELLA Cameron.

Abdomen sessile, basal segment nearly as long as following segments united, closely, strongly, uniformly, longitudinally striated, except on the outer edge, which is smooth and clearly separated; it is longer than it is wide at the apex, which is broadly rounded outwardly; the second is different from the form of the first, much longer laterally than in the centre, where it is about one-fourth of the length of the first; its apex is quite transverse. Antennæ placed over mouth, 10-jointed, the joints elongate. Hind femora closely toothed, apical tooth larger than the other. Apex of scutellum bluntly rounded. Metanotum flat, bearing three keels on either side, these being connected by finer transverse striæ. Outer keel stouter than the others and slightly projecting. Apex almost transverse above and at the top, pressing against base of first abdominal segment. Submarginal vein nearly half the length of the rest of wing; marginal not one fourth its length, stigma short, hardly projecting beyond latter; postmarginal hardly differentiated. Malar space as long as eyes. Body and legs more densely pilose than usual. Middle legs much narrowed on basal half. Notable for peculiar form of first abdominal segment.

1. IRICHOHALTICHELLA PILOSELLA Cameron.

Length, 5 mm.

Black; densely covered with white pubescence; the apical third of the four anterior femora, the whole of the posterior femora and all tibiæ and tarsi red; wings hyaline venation black, tegulæ black, broadly red at the outer edge.

Antennæ opaque, bare, third joint about one fourth longer than fourth, the last longer than the penultimate. Sides of front and occiput coarsely transversely striated. Temples less strongly umbilicately punctate, lateral lobe of mesonotum with the central apical half smooth, the rest with large, distinctly separated punctures. Base of metanotum, under the projecting apex of scutellum, with a crenulated furrow; the two outer longitudinal arcæ wider than the central, and having the longitudinal and transverse keels stronger than the central. Upper half of propleuræ umbilicately punctate, clearly separated from the lower, which is smooth, has a stout keel down its base, but not on the basal edge; it has two longitudinal upper and lower keels. There are two rows of punctures on the apices of the third and fourth abdominal segments, the others opaque and finely rugose.

Habitat: Mittagong, New South Wales.

Type: Query.

GENUS ANTHROCEPHALUS Kirby.

1. ANTHROCEPHALUS MARGINICEPS Cameron. Male, female.

Length, 5 mm.

Black; the four anterior knees and tarsi rufo-testaceous; wings hyaline, the apical half tinged, slightly but distinctly with fuscous, the veins black; face, outer orbits, apex of mesopleuræ, metapleuræ and the sides of the apical abdominal segments densely covered with

long silvery pubescence, the rest of the body with the silvery pile shorter and sparser, except on the mesonotum, where it is short and black; legs covered with white pubescence, which is dense, especially on the femora and tibiæ. The last abdominal segment and the sheath of ovipositor covered densely with short white pile. Antennæ longish, of uniform thickness. Frontal depression finely, closely transversely, regularly striated to the anterior ocellus, which is placed inside it in a smooth shining space; it is bordered by a stout keel, the space between which and the eyes is regularly, rather closely and strongly striated. Occiput closely, almost transversely, not very strongly rugosely punctured, the punctures on the top larger, and more distinctly separated. Pro- and mesonotum, and scutellum moderately strongly punctured, the punctures on the mesonotum more widely separated. Metanotum bordered by a stout keel, commencing at the outer basal part, where it is roundly dilated, forming almost an oblique semicircle from which it runs obliquely to the lower central part, forming a triangular area; the keel has two outward projections inside it. In the narrowed basal part, are some oblique striæ, the innermost larger and rounded inwardly; on base a crenulated furrow; the area is bare, but is fringed densely by long silvery hair. Pleuræ strongly punctured, the depressed basal part of the mesopleuræ bare, shining, strongly striated, the striæ clearly separated, the central more irregularly sloped than the others. Seen from the top, the metanotum on the outer edge is trilobate, the central lobe larger and more rounded. Apex of fifth tarsal joint of hind legs and claws, except at apex, rufous.

Habitat: Mittagong, New South Wales.

Type: Query.

2. ANTHROCEPHALUS ERYTHROGASTER Cameron. Female.

Length, 5 mm.

Black; antennæ (pale), tegulæ, legs and abdomen, except back and ovipositor, red; wings hyaline, venation black. Frontal depression closely, regularly, not very strongly striated, separated from the anterior ocellus by a smooth, slightly curved, flat keel; it is separated from the eyes by a broad band which, on the inner side, bears three rows of punctures below, two above; the inner side is obliquely depressed towards the eyes and has two rows. Thorax on the pro- and mesonotum and scutellum closely, regularly not very strongly punctured; apex of scutellum margined, the centre with the keel stronger and depressed in the middle, forming two slight lobes narrowed inwardly. The centre of the metanotum has, on either side, a stout keel, which runs from the outer basal part to the inner central, the two forming a large triangular area. Closely, almost uniformly, not very strongly punctured. The narrowed apical part of the scutellum margined, furrowed on the inner side, the centre of the apex broadly bilobate, the lobes not prominent. The depressed part of the metanotum striated, the striæ moderately strong, more or less curved, bordered at base and apex by a smooth margin. Abdomen as long as thorax, terminal sheath short, broad, blunt at apex. The end joints of the antennæ are marked with black. Hind femora finely, closely, distinctly and uniformly punctured; below margined with white pubescence.

Habitat: Glen Innes, New South Wales.

Type: Query.

3. ANTHROCEPHALUS CARPOCAPSÆ Cameron. Female.

Length, 4 mm.

Black; flagellum of antennæ, tegulæ and legs, red, tibiæ darker than femora; wings hyaline, venation black; a fuscous cloud at and behind the stigma, not extending much beyond the venation; beyond a larger, paler, longish triangular cloud, the narrowed end at the costa, it extending beyond the middle. Basal four ventral segments piceous red. Front depression deep, faintly striated, the sides transversely striated, with two longitudinal keels, the inner stronger and longer than the other, it going round the sides and top of lower ocellus; opposite the latter, it forms a flat, smooth, shining keel on which are three foveæ. Pro- and mesonotum closely, distinctly punctured, the former more closely and finely than the latter, scutellum

slightly more strongly than the mesonotum, its apex depressed in the middle, sides bluntly rounded. Metanotum with a slightly oblique, straight slope; in centre two keels which slightly converge at base, space between them irregularly striated; part on either side reticulated, widely at base, more closely and finely at apex, the part becoming gradually narrowed toward apex.

Habitat: Glen Innes, New South Wales.

Type: Query.

4. ANTHROCEPHALUS SPILOGASTER Cameron. Female.

Length, 6 mm.

Black; basal two abdominal segments, upper half of third, sides, hind coxæ, trochanters and femora red; wings hyaline, middle of wings fuscous, slightly violaceous, the cloud fainter beyond the stigma, which is black like venation; four anterior tarsi rufo-testaceous except at base. Temples, pleuræ, metanotum, and apices of abdominal segments densely covered with long, white pubescence; mesonotum and scutellum densely with shorter black pubescence; on tibiæ short, white and dense. Frontal depression closely, regularly, transversely striated in the centre; sides transversely striated, with a keel on either side and one down center. Malar space as long as eyes. Apex of scutellum roundly, broadly incised, lateral edges bluntly rounded. Thorax strongly punctured, punctures on mesonotum and scutellum clearly separated. Mesopleuræ, except at base, closely, regularly, longitudinally striated, the striæ becoming shorter below. Metapleuræ closely, rugosely reticulated, armed with a stout tooth, which is longer than wide at base. Abdomen nearly as long as the head and thorax combined.

Habitat: Bong Bong, New South Wales.

Type: Query.

5. ANTHROCEPHALUS POMONELLÆ Cameron. Female.

Length, 4 mm.

Black; tegulæ, legs and basal four abdominal ventral segments red; wings hyaline, stigma and nervures black; a cloud at marginal vein extending to stigmal branch, faint at the posterior part, which extends to the apex of the anterior third, the dark tinted part wider than long, widened on either side at the apex, which is covered inwardly; there is a fainter irregular cloud in the centre, at end of postmarginal vein, placed nearer the anterior than the posterior margin; lower part of orbits, malar space, metapleuræ, and the apical abdominal segments densely covered with silvery pubescence. Apex of scutellum bluntly, triangular bilobate. Metanotum closely reticulated; an area down its centre, about four times longer than wide, of equal width, but slightly roundly narrowed at base and apex, irregularly transversely striated; at base, on either side, a deep crenulated furrow slightly narrowed on inner side and bounded on outer by a stout, raised keel; beyond this are two roundly curved, oblique keels, uniting before the metanotum, then forming a small triangular area; the space between the two bears seven or eight keels. Mesonotum more widely and strongly punctured than pronotum, scutellum than the mesonotum. Propleuræ above coarsely, umbilicately punctured; below with some stout, irregular keels. Mesopleuræ with the centre stoutly, closely, longitudinally striated; this part at the base, is bordered by a smooth, flat, shining keel, which bends shortly above the middle, to middle coxæ; the space behind this irregularly reticulated; apex above rugosely punctured, below smooth, the top part at the apex bordered by six foveæ in two rows of three each. Metapleuræ closely, coarsely, umbilicately punctate. Abdomen not much longer than thorax, terminal segments opaque, shallowly reticulated. Apex of fore femora and tibiæ broadly in the middle are black; underside of hind femora densely covered with white pubescence. Inner orbits bordered by a stout keel which, at the top, runs round the anterior ocellus, this part being narrower than the rest; space between keel and eyes is crenulated; hinder ocelli placed outside the keel; top of antennal scape reaches to ocelli. Malar space slightly shorter than eyes.

Mr. J. C. Crawford (Proc. U. S. Nat. Mus. fig. 41, 271), describes *Haltichella stokesi* bred at Glen Innes, N.S.W., from the codling moth, which agrees very closely in coloration

with the species described. My species, however, is not a *Haltichella*, which genus has the hind femora armed with about twelve small teeth. *A. pomonellæ* is not unlike *A. carpocapsæ*; but it is larger, has entirely black antennæ, and the lobes on the apex of the scutellum more distinct, and the base of the metanotum has a crenulated lateral border at the base.

Habitat: Narara, New South Wales.

Types: Not known.

Tribe CHALCITELLINI.

Genus CHALCITELLA Westwood.

1. CHALCITELLA PICEIVENTRIS Cameron. Male.

Length, 3 mm.

Black; antennal scape and four front legs rufo-testaceous, hind legs and tegulæ of a deeper, darker rufous color, the middle of the femora broadly black, sides and ventral surface of dilated abdominal segments piceous red; wings hyaline, iridescent nervures pale testaceous, costal nervures paler at the apex. Vertex weakly punctured laterally, center smooth, sides of front more strongly punctured, occiput smooth and shining. Pro- and mesonotum and scutellum strongly punctured, apex of mesonotum smooth at sides. Flat metanotum is strongly aciculated; two keels, not very clearly defined, down the middle; on either side are two pairs of not clearly defined oblique keels. Pro- and mesopleuræ irregularly punctured, the apical upper third of the latter smooth, the lower part finely, closely striated. Metapleuræ regularly reticulated. Abdominal petiole one half the length of thorax and longer than the rest of the abdomen. Two keels on top, and a stout one down middle of sides. Eight black teeth on hind femora, four basal larger and more widely separated than apical.

Habitat: Mittagong, New South Wales.

Type: Not known.

2. CHALCITELLA AUSTRALIENSIS Girault. Female.

Length, 2.75 mm.

Black; abdomen except petiole and above centrally, dark reddish; posterior femur also dark reddish except a large black blotch in center of ventral margin (lateral aspect); tegulæ, all of other legs and the hind tibiæ and tarsi dark red; also scape, pedicel and one or two funicle joints. Wings subhyaline. Umbilicately punctate but not densely, smooth between the punctures. Propodeum with median carinæ bounding sulci, the latter crossed by ridges. Funicle joints enlarging distad; pedicel short, cup-shaped. Funicle 7-jointed, the club 2- or 3-jointed. Hind femur ventrad with eight teeth, all large except the minute last one. Hind tibiæ simple. Postmarginal and stigmal veins absent.

Habitat: Gordonvale (Cairns), Queensland. Forest.

Type: No. *Hy 3415*, Queensland Museum, Brisbane. Tag and a slide.

Genus NEOANACRYPTUS Girault.

Like *Anacryptus* Kirby but the posterior femur beneath with seven large teeth and greatly swollen as normal for the family. Antennæ 11-jointed, with a minute ring-joint which is not as wide as funicle. Abdominal petiole as long as the posterior coxæ. Postmarginal and stigmal veins absent. Tooth on hind tibiæ below knees large. Genotype re-examined.

1. NEOANACRYPTUS PETIOLATUS Girault. Female.

Length, 2.50 mm.

Black, umbilicately punctate, including the propodeum; scape yellowish brown, the antennæ otherwise black; abdomen yellow-brown except above, its long petiole black and longitudinally carinate; tegulæ, trochanters and rest of legs except the coxæ and much of

cephalic femur and all of hind femur but each end, reddish brown. Fore wings rather deeply, uniformly smoky from about the middle of the submarginal vein. Seven teeth on hind femur, 7 a mere tubercle-tooth, 1 largest, 3 and 4 about equal. Pedicel very short, joints 2 and 3 of funicle subequal, longest, 1 not much shorter and subequal to the distal funicle joint which is equal to the first *apparent* club joint. Cephalic tibiæ black proximo-dorsad.

Habitat: Kuranda, Queensland. Jungle. May 19, 1913 (A. P. Dodd).

Type: No. *Hy 3416*, Queensland Museum, Brisbane, two tags and a slide.

2. NEOANACRYPTUS HYALINIPENNIS new species.

Female:—Length, 2.80 mm.

Black, the wings hyaline yet slightly stained with yellowish; tegulæ, scape, pedicel, joints 1-3 of funicle (more or less), abdomen except along dorsum and the petiole, first two pairs of legs, each end and some of the ventral margin of hind femur, hind tibiæ and tarsi blood red. Antennæ differ from those of *petiolatus* in having the ring-joint as wide as the funicle, the first funicle joint somewhat shorter than the short pedicel rather than much longer and distinctly longer than wide; funicle 7 longest, about as long as wide at apex. The teeth on the hind femur are about as in *petiolatus*. Space between the umbilicate punctures of thorax glabrous, the punctures not dense. Middle of propodeum with four longitudinal carinæ of which the mesal two are near the meson, one on each side and both abbreviated caudad; another carina is visible farther laterad, making six coarse carinæ. *Club solid.* Compared with type of *petiolatus* whose club is also solid. In *petiolatus*, the fore wing is not deeply infuscated but rather lightly yet distinctly so as described. The propodeum is foveate, the punctures of the thorax not confluent but nearly, closer, denser and coarser than with this new species. Carinæ in the mesal part of the propodeum are not distinct but interlace.

Described from one female captured in October (H. Hacker).

Habitat: Brisbane, Queensland.

Type: No. *Hy 3417*, Queensland Museum, Brisbane, the specimen on a tag, the hind leg and an antenna on a slide.

3. NEOANACRYPTUS REGIFICUS new species.

Female:—Length, 2.50 mm.

Differs from the genotype in being larger, the first two pairs of legs are wholly blood red (the cephalic femur not black centrally, the cephalic tibiæ not black dorsad at proximal half as in the genotype), the hind femur has only a large, ovate black spot centrally mesad (obscure in lateral aspect), this spot with the larger end proximad; the whole near dorsal edge and extending over half way to apex; rest of hind legs except coxæ, blood red. Scape blood red, the tegulæ yellow. The abdomen is blood red and with less black, the latter occupying a rather broad band a little distad of middle of segment 2 and which extends only half way down the side. Tips of hind coxæ red. Sculpture about the same in both; on propodeum a foveate median channel bounded by a carina on each side, this pair of carinæ meeting the top of a horse-shoe shaped carina a little before apex (both species and in *hyalinipennis*). Pubescence same in both, very short, rather sparse, golden. Scutellum unarmed in all three species. The teeth of hind femur in this new species differ from those of *petiolatus* in that there are 8, the last two smallest and joined together at base; the first tooth is obliquely truncate in both species and otherwise the teeth very similar. Antennæ differ from those of the genotype in that funicle 7 is a little shorter and 2 is somewhat shorter than 1. Pedicel very small in both. Differs from *hyalinipennis* mostly in the structure and color of the antennæ.

From one female caught in forest, June, 1914 (A. P. Dodd).

Habitat: Burnett Heads, Southern Queensland.

Type: No. *Hy 3418*, Queensland Museum, Brisbane, the specimen on a tag, the flagellum and hind tibiæ on a slide.

PARANACRYPTUS new genus.

Female:—Differing from *Anacryptus* Kirby in having the antennæ but 11-jointed, the club solid; a large (but much wider than long) ring-joint is present.

1. PARANACRYPTUS SANGUINEUS new species. Genotype.

Female:—Length, 5 mm.

Dark blood red, tarsi yellowish brown, the abdomen blurred more or less with black. Wings irregularly but distinctly stained yellowish along the proximal two thirds. Segment 2 of abdomen occupying nearly two thirds the surface, the petiole long, subequal to segment 2 or the hind coxa, coarsely longitudinally striate. Postmarginal vein and marginal fringes absent (fore wing), the stigmal minute, sessile, the marginal three fourths the length of the submarginal. Ocelli in a slightly curved line. Scutellum simple. Head and thorax umbilicately punctate, the surface glabrous between the punctures. Abdomen compressed, cordate. Propodeum much more finely punctate and the dorsum bears several carinæ, two of which are on the meson, slightly diverging from base and shorter than the others. Abdomen glabrous but with slight pubescence distad. Tip of club black. Scape slender; pedicel very short, smaller than any of the funicle joints of which 1 is longest, distinctly longer than wide, 2 distinctly shorter than it, a little longer than wide; following joints to 7 subquadrate, slightly enlarging distad. The club has a dark red stripe across it making it appear to be 2-jointed but there is no suture; these stripes also occur on the funicle joints. Face along meson without punctation. Face not excavated. Hind coxæ punctate, the hind femur punctulate.

Described from one female taken April 2, 1913 (H. Hacker).

Habitat: Brisbane, Queensland.

Type: No. *Hy 3419*, Queensland Museum, Brisbane, the specimen on a tag.

2. PARANACRYPTUS HYALINUS new species.

Female:—Length, 4 mm.

Similar to the preceding in all details but smaller and the wings are hyaline. Compared with type of *sanguineus*.

Described from one specimen taken in forest, April 27, 1914.

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 3420*, Queensland Museum, Brisbane, the specimen on a tag.

GENUS ANACRYPTUS Kirby.

1. ANACRYPTUS FERRUGINEUS Cameron. Male.

Length, 5 mm.

Ferrugineous; antennæ lighter in tint; mesonotum, scutellum, mesosternum, and dilated apical part of abdomen infuscated, two hinder legs darker in tint than the four anterior; abdominal petiole fully one half the length of the thorax, and longer than the rest of the segments united; wings hyaline, very iridescent, venation black.

Head and thorax strongly, umbilicately punctate, less strongly and more sparsely on sides of vertex and in middle of occiput, lateral lobes of mesonotum less strongly and more sparsely than the middle one; scutellum as strongly, but not so closely, its apex broadly rounded, and with a distinct margin. Propleuræ with two punctures above and two below. Mesopleuræ, at the top apical part, with a squarish, smooth space, having one fovea in middle of base and three below; apical basal part closely, finely, longitudinally striated, more strongly and less closely at top; the rest strongly punctured, with the punctures clearly separated. Metanotum

strongly aciculated, with two keels slightly diverging at the apex, in the center. Metapleuræ regularly reticulated. Abdominal petiole aciculated, more strongly at base than apex, its sides margined, weakly so on apical half, sides with two stout keels, and an irregular one on basal half between them.

Habitat: Mittagong, New South Wales.

Type: Query.

Genus NEARRETOCERA Girault.

1. NEARRETOCERA JOHNSTONI Girault. Female. Genotype.

Length, 2.60 mm.

Black, punctate, the punctures not confluent; tegulæ, coxæ (except hind coxa above) and the rest of legs (except outwardly, a large black area from upper margin of hind femur, ovate in shape) dark reddish; scape and next six joints orange, rest of antenna black. Fore wings with a black stripe across them from the marginal vein and in the outer third of the blade a black marking like a fleur-de-lis (but with the bottom part, that below the ring absent) which is upended upon one of the arms; the base of this marking nearly touches the first cross-band; proximad of latter the blade fumated to the bend of the submarginal vein. Scape nearly half the length of the flagellum (including pedicel), the club distinctly shorter than it; first funicle joint subquadrate, joints 4-8 longest.

Habitat: Gordonvale (Cairns), Queensland. Jungle, May 26.

Type: No. *Hy 3421*, Queensland Museum, Brisbane. Tag and a side.

The genus agrees in every detail with *Arretocera* Kirby but the club is solid; the small, third antennal joint is plainly not a ring-joint. Scutellum simple. Postmarginal vein absent. Petiole of abdomen short, stout; stigmal vein a mere spur. Pedicel longer than any of the funicle joints.

2. NEARRETOCERA FUSCIPENNIS new species of A. P. Dodd and Girault. Female.

Length, 3.50 mm.

Black, coarsely punctate; knees, tips of tibiæ and the tarsi more or less ferrugineous. Punctures less dense and not confluent on scutellum and axillæ; parapsides almost wholly smooth. Propodeum with many transverse and several longitudinal carinæ. Petiole short, stout, the abdomen likewise, the second segment dorsad occupying over half of the surface, strongly longitudinally carinated, the rest of the abdomen dorsad and laterad with circular punctures and long white pubescence; second segment short laterad; proximal half of abdomen laterad quite smooth and shining. Fore wings wholly deeply fumated. Antennæ 11-jointed, without a ring-joint; scape very long, pedicel also long, much longer than any of funicle joints, of which the first is smallest, though plainly not a ring-joint; joints all longer than wide. Marginal vein not short.

Habitat: Brisbane, Queensland. October 11, 1914 (H. Hacker).

Type: No. *Hy 3422*, Queensland Museum, Brisbane. Tag and slide.

3. NEARRETOCERA RUBRICORNIS new species of A. P. Dodd. Female.

Length, 3 mm.

Black, coarsely punctate, the antennæ, trochanters, anterior tibiæ, tips of other tibiæ, knees and tarsi ferrugineous. Wings hyaline, marginal vein short; second abdominal segment smooth or nearly so; abdomen more slender than in *fuscipennis*. Funicle 1 more like a ring-joint; other joints of funicle as wide as long, 1 wider than long.

Habitat: Brisbane, Queensland. November 19, 1913 (H. Hacker).

Type: No. *Hy 3423*, Queensland Museum, Brisbane. A slide.

4. NEARRETOCERA PERSIMILIS new species of A. P. Dodd.

Female:—Length, 3.10 mm.

Very similar to *fuscipennis* Dodd but besides the punctures on the apical portion of the abdomen there is also fine, scaly sculpture, the marginal vein is shorter, the pedicel is ferrugineous, the first funicle joint is somewhat wider than long, the others a little shorter and of uniform width (in *fuscipennis* the funicle joints are slightly narrowed at the base, so that the apex of one slightly overlaps the other). Otherwise, the same or nearly.

From one female caught in forest, April 4, 1913 (A.A.G.).

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *Hy 3425*, Queensland Museum, Brisbane, the specimen on a tag, the head on a slide.

Both species have a dark blotch immediately under the marginal vein.

ARRETOCEROIDES new genus.

Somewhat like *Arretocerus* Kirby but antennæ only 11-jointed, the long club solid, one very short ring-joint; funicle joints long. Marginal vein thickened but rather long; postmarginal absent; stigmal vein a mere projection from the marginal and without a knob; submarginal vein very long and narrow; fore wings fumated. Antennæ inserted at mouth border. Abdominal petiole short and stout, the abdomen oval. Posterior tibiæ simple; posterior femur beneath with one acute tooth proximad immediately followed by many black comblike teeth—as in *Stomatocerus*. Pedicel small. Characterized by the peculiar venation, antennal and abdominal structures. With the habitus of the scelionid genus *Scelio* Latreille.

1. ARRETOCEROIDES FERALIS new species. Male. Genotype.

Length, 4.75 mm.

Black, pubescent and punctate; legs except coxæ, the scape, pedicel and ring-joint, yellowish brown. Fore wing distinctly infuscated but somewhat irregularly so; a small white space just disto-caudad of venation; first funicle joint about thrice longer than wide, the others shortening somewhat; club longest of the flagellum, subequal to the scape or somewhat shorter. Venation black.

Habitat: Proserpine, Queensland. Jungle, November 4, 1912.

Type: No. *Hy 3424*, Queensland Museum, Brisbane. A slide.

Genus CHALCITELLOIDES Girault.

Agreeing with the description of *Chalcitella* Westwood but the antennæ only 11-jointed, no ring-joint, club 2-jointed. Fore wings without postmarginal or stigmal veins, the marginal long, slender and truncate at apex. Posterior femur beneath with eight teeth, the distal two small and equal; scutellum ending in a minute tooth. Venter of propodeum with a pair of stout teeth pointing ventrad. Petiole of abdomen as long as the hind coxæ. Posterior tibiæ *with* a small acute tooth outwardly near base (proximal third). Wings hyaline. Propodeum with a median carina. Corrected description.

1. CHALCITELLOIDES NIGRISCUTUM Girault. Female. Genotype.

Length, 3 mm.

Blood red, the wings hyaline; mesoscutum and axillæ black; also venter of thorax, the lateral pieces of scutellum and an oval spot in center of posterior coxa outwardly; venation pale brown. Head black, the antennæ red except distal two thirds of club. Umbilicately

punctate and with sparse white pubescence. Abdominal petiole with longitudinal carinæ, far apart. Fore wings practically naked, without marginal cilia. First funicle joint longest; others more or less subquadrate, the club long, conical.

Habitat: Capeville (Pentland), Queensland. Forest, January 8, 1913.

Type: No. *Hy 3426*, Queensland Museum, Brisbane. Tag and slide.

2. CHALCITELLOIDES NIGRITHORAX new species. Female.

Length, 2.60 mm.

Black but like the type species (*nigriscutum*) except that only the scape, pedicel and first four funicle joints are red; abdomen blood red but black above and along upper half of each side (a little proximad of middle), the petiole black; tegulæ and legs (except coxæ) blood red, the hind femur with a large rounded black spot centrally. Antennæ 11-jointed, proximal club joint shorter than the other or distal one. Fore wings lightly stained. Funicle joints after the first wider than long, the rather indistinctly sutured first club joint shorter than the other joint of that part; joints of funicle widening distad, the flagellum clavate. Punctures of thorax not densely confluent, separated. (Median carina of propodeum not distinctly seen.)

Habitat: Proserpine, Queensland. November 4, 1912.

Type: No. *Hy 3427*, Queensland Museum, Brisbane, the female on a tag, the head and a fore and hind leg on a slide.

3. CHALCITELLOIDES IO new species.

Female:—Like the genotype but the black spot in the center of the hind femur outwardly is larger and reaches the upper margin; the proximal club joint is shorter, plainly wider than long and plainly less than half of the distal joint (subquadrate and over half of the distal joint in the genotype); the first funicle joint is shorter, only slightly longer than wide (distinctly longer than wide in the genotype) and the small, round impunctate area at the base of each parapside is more conspicuous and somewhat larger.

From one female captured by sweeping foliage of lantana, October 21, 1911.

Habitat: Mackay, Queensland.

Type: No. *Hy 3428*, Queensland Museum, Brisbane, the specimen on a tag and a slide with appendages.

Tribe DIRRHININI.

Genus ENIACELLA Girault.

Like *Eniaca* Kirby but the antennæ 13-jointed, with *one* ring-joint, club 3-jointed. Postmarginal and stigmal veins very short, the latter sessile. Posterior femora beneath with comblike teeth preceded by a single moderate-sized tooth. Abdominal petiole short. Metathorax with teeth laterally and ventrally. Ring-joint split transversely at middle. Corrected description.

1. ENIACELLA RUFRICORNIS Girault. Male; female. Genotype.

Length, 3.85 mm.

Black, the antennæ and first two pairs of legs reddish, the posterior legs black, all tarsi yellow. Fore wings stained. Punctate. Scutellum simple. Tegulæ reddish. The second abdominal segment is longitudinally striate dorsad at base (about seven striæ), the segment reaching nearly to tip. The propodeum bears strong interlacing carinæ, the petiole has six dorsal carinæ. Cephalic third of scutum finely polygonally scaly. There is a stout tooth ventrad from petiole. The striated area on segment 2 is subquadrate but somewhat longer than wide, the distal margin subtruncate. A small area in center of scutellum is glabrous. Pubescence not conspicuous. A row of stout teeth on venter just cephalad of hind coxæ. Type re-examined.

When the antennæ are crushed, the ring-joint appears to be divided but the margins remain entire; therefore one ring-joint, not two as originally described. Club of male at least, blackish. Joints of club fused. Coxæ black.

In the male, segment 2 of abdomen reaches only about to distal three fourths or a little less. The antennæ bear one ring-joint, 13-jointed; funicle 1 longest, somewhat longer than wide. Like the female otherwise.

Three males from Thursday Island, March 12, 1912, forest; also one male labelled "Port Darwin, March 10, 1914. G. F. Hill. No. 36." and one female from Halifax, March 29, 1914 (A. P. Dodd). One male, Gordonvale, May.

Habitat: Gordonvale (type), Halifax, Thursday Island, Queensland; Port Darwin, Northern Territory.

Type: No. *Hy 3428*, Queensland Museum, Brisbane, a male on a tag.

The type specimen was captured along the Mulgrave River, April 2, 1913.

2. ENIACELLA BICORNUTICEPS new species.

Female:—Length, 4.84 mm.

Closely allied with the genotype. Funicle 7-jointed, one large ring-joint, club apparently solid. The horns on head from lateral aspect are acutely triangular, their dorsal aspect flattened, the margins carinated or rimmed.

Black, the wings slightly stained with yellowish; tegulæ, antennæ except club and the first two pairs of legs except coxæ, blood red. Fore wings without marginal fringes, postmarginal vein absent, the stigmal minute, the marginal very long, as long as the submarginal. Head and thorax densely punctate; center of scutellum glabrous (small area only). Pedicel slightly longer than funicle 1 which is longest, somewhat longer than wide, the following all wider than long, 2 longest of them, 7 widest. Club short ovate, defined, with two dark bands across it like sutures, its indicated intermediate joint transverse. Segment 2 of abdomen occupying over half the surface, its proximal third finely striate longitudinally (except near each lateral margin), its distal one sixth finely punctate, otherwise glabrous. Petiole stout, wider than long, dorsad with four coarse carinæ. Propodeum large, wide, with a number of interlacing, coarse carinæ (at mesal base an obcordate area inclosed by one of these, the area bisected by a carina, between which and the curved side run transverse carinæ; from the apex of this area which is at or a little distad of middle, a median carina runs distad. Laterad and laterocephalad of this area a number of deep punctures in an area surrounded by carinæ). Carinæ of propodeum not close together, bounding rather large areas which are more or less rugulose. Scutellum simple. Ocelli in a triangle, distant from the eyes. There are 16 striæ on segment 2 of abdomen.

Described from one female taken by F. P. Dodd in jungle.

Habitat: Kuranda, Queensland.

Type: No. *Hy 3430*, Queensland Museum, Brisbane, the specimen on a tag; antennæ and fore wing on a slide.

Genus PARENIACA Crawford.

1. PARENIACA BOUSSINGAULTI new species.

Female:—Length, 2.80 mm.

Differs from the genotype in having the head but 4-cornuted. Agrees with *Eniacella rufricornis* for which I mistook it but the wings are hyaline, the striæ at base of segment 2 of abdomen are longer, the area longer than wide, its apical margin convex and there are several more striæ. Only the cephalic margin of scutum is polygonally scaly. Antennæ 13-jointed,

no ring-joint; funicle 1 quadrate, about half the length of the pedicel which is longer than any of the funicle joints; joints 6-8 of funicle wider than long; funicle 2 longest, somewhat longer than wide. Ovipositor not exserted.

From one female taken from a window, March 2, 1914.

Habitat: Gordonvale (Cairns), Queensland.

Type: No. *3429*, Queensland Museum, Brisbane, the specimen on a tag (minus head).

ENIACOMORPHA new genus.

Male:—Similar to *Pareniaca* Crawford except that there is a distinct ring-joint; two pairs of small horns ventrad of the large pair (as seen from lateral aspect). The club is solid, the ring-joint divided centrally transversely as in *Eniacella*, appearing like two.

1. ENIACOMORPHA VULTUR new species. Genotype.

Male:—Length, 7.75 mm.

Very similar to male *Eniacella rufricornis* Girault but about the distal half of antennal flagellum is blackish, the size is much smaller, all the femora of first two pairs of legs are usually black except at each end, the proximal half of each tibia of cephalic and middle legs usually black, the wings distinctly less infuscated; funicles 1 and 2 subequal, longest, somewhat longer than wide and each a little longer than the pedicel. Funicles 6 and 7 are only a little wider than long. The ventro-lateral aspect distad of abdominal segment 2 is finely punctulate in both species (the other segments also but in *rufricornis* only along the lateral lobes) but more pubescent in *rufricornis*. The scutellum is more uniformly punctate centrally, sometimes with a glabrous central area of small size.

Described from six specimens captured singly while hovering over some old straw on the floor of the forest under an abandoned native hut, May 2, 1914.

Habitat: Gordonvale (Cairns), Queensland.

Types: No. *Hy 3431*, Queensland Museum, Brisbane, five specimens on a tag.

Tribe SMICRINI.

Genus EPITRANUS Walker.

1. EPITRANUS LACTEIPENNIS Cameron.

Epitranus lacteipennis Cameron, Trans. Ent. Soc. Lond., p. 187 (1883). Australia; Oahu.
Note: Hawaiian Islands only?

2. EPITRANUS TELENTE Walker. Female.

Epitranus telente Walker, Ent. Monthly Mag., V, p. 471, ♀ (1838).
Tasmania, Australia.

Tribe SMICROMORPHINI.

The abdomen is inserted far up on the propodeum near apex of scutellum, the petiole very long; postmarginal vein absent. Antennæ inserted above the ventral ends of the eyes.

Genus SMICROMORPHA Girault.

Female:—Resembling in the eyes and antennæ many Diptera, in the shape of body many ichneumon flies but in general habitus the genera of the Chalcitellini. Head wider than long, the eyes very large, occupying the whole side of head and converging ventrad; frons very narrow; antennæ setiform, inserted far below the middle of the face yet above the ends of

eyes, 9-jointed without a ring-joint, the flagellum subsetiform as in the Diptera; club solid and longer than any of the funicle joints which are all longer than wide, the first shortest and cup-shaped; pedicel large and ovate, nearly as long as the club joint. Marginal vein very short, not more than twice longer than wide at apex, the stigmal about half its length. Parapsidal furrows complete. Scutellum simple and with a shallow median groove; propodeum simple, with a similar groove which widens distad. Posterior femur beneath armed with many (about 55-60) minute, comblike, black teeth, equal in size, the first appearing to be shorter and more obtuse, the second to be of two coalesced nearly to tip, the margin itself scalloped from base up to the first tooth and therefore wavy. Middle tibia with a spur. One tooth of mandible falcate as in the Eucharidæ, the other short and acute; the falcate one without teeth, long like a naked sword. Abdomen stouter distad than in the male, the ovipositor distinct but not exserted. Mandibles alike in both sexes but peculiar in shape, having two teeth, the first long, acute, subfalcate, the second a half shorter, rather broad, obtusely rounded at apex and separated from the first by a long, narrow sinus.

In the male the eyes are smaller, extending only two thirds the way to mouth; antennæ only 7-jointed, club solid, funicle 4-jointed, no ring-joint. Frons broad. (Corrected description.)

1. SMICROMORPHA DODDI Girault. Female; male. Genotype.

Length, about, 5.50 mm.

Honey yellow, the wings stained a little just distad from the venation, the parapside with a dark reddish brown spot against the middle of each mesal margin; abdomen reddish brown. Sculpture as in *Smicra*. Petiole of abdomen about as long as hind coxa. Scutum obscurely dark reddish, its lateral margin yellow (no doubt due to fading and there is no real pattern). In the male, scutum distinctly dark reddish.

Habitat: Port Darwin, Northern Territory. Larvæ of *Oecophylla smaragdina*.

Types: No. *Hy 3432*, Queensland Museum, Brisbane, a pair minutien-mounted and a female head on a slide.

2. SMICROMORPHA CADAVEROSA Girault. Female; male.

Length, 5 mm.

Like the type species but with a more distinct pattern on the thorax (no pattern or practically none in female genotype): All of each parapside except margins, cephalic portion of each axilla, cephalic half of scutum except along margins and meson, caudal third of scutum except along meson and margins, forming two elongate oblique spots one on each side and a minute dot in the center of propodeum, dorso-laterad, dusky black; the spot on the fore wing is more distinct than in the type species. Otherwise the same. First funicle joint tapering from apex to base.

The male is the same but the hind coxæ shorter and stouter, dusky black; dot on propodeum absent.

Habitat: Gordonvale (Cairns), Queensland. Jungle, July 28, 1913 (A. P. Dodd).

Type: No. *3433*, Queensland Museum, Brisbane. A pair on tags and a slide.

Subfamily LEUCOSPIDINÆ.

PAREXOCLÆNUS new genus.

1. PAREXOCLÆNUS VESPOIDES new species. Genotype.

Female.—Differs from *Exoclænoides* in having the hind femora beneath armed with large teeth, the postscutellum simple, the caudal coxæ above without a tooth dorsad and the antennæ are 13-jointed, there being only one small joint distad.

Length, 12.50 mm. Black marked with faded reddish orange as follows: Head on each side of mouth, a short, transverse line across ventral border of face, a large, elliptical marking

bordering the scrobe on each side, antennæ, cephalic and caudal margins of pronotum; an oblique, ovate, eye-spot on centre of scutum on each side of meson, lateral margin of scutum except cephalad narrowly, scutellum but darker, its caudal edge lemon yellow; tegulæ, a small spot center of mesopleurum; postscutellum, lateral margin of propodeum; an oblique, elliptical spot on each side dorsad base of abdomen, a broad band around abdomen (except venter) at apex of proximal two thirds; apex of abdomen and an obscure transverse mark at meson of middle of dorsum; distal margin of segment 2 at meson obscurely; distal ends of coxæ, rest of cephalic leg except proximal two thirds of the coxa; middle legs except coxa; distal fourth of hind femur, hind tibiæ and tarsi; (rest of hind femur laterad except a very large rounded black spot from ventral margin near base—leaving the proximal and dorsal margins rather broadly yellow—lemon yellow); (mesal aspect, rest of hind femur black). Hind femur armed beneath with five large and two small teeth, 2-4 largest, 2 acute, 1 acute but smaller than 5; 7 minute. Pubescence, wings and sculpture about as in *Exoclænoides uncinctus*. Abdomen in both constricted at segment 2 but in this species the propodeum is more declivous and rounded distad, the lateral margin carinated. Funicle 1 as in the named species but shorter, longer than the pedicel, subequal to 2; distad of 3 funicle joints subquadrate. First division of club a little proximad of middle. Lateral ocelli distant from the eyes.

From one female captured April 4, 1912 (H. Hacker).

Habitat: Brisbane, Queensland.

Type: No. *Hy 3434*, Queensland Museum, Brisbane, the specimen on a pin.

EXOCLÆNOIDES new genus.

1. EXOCLÆNOIDES UNCINCTUS new species. Genotype.

Female:—Length, 13.25 mm. Differs from *Exoclænus* Shipp in that the second spur of hind tibia is present, the other thickened and short, tipping the tibia like a horn as described for the other genus. Also, the caudal femur has a tooth above a little distad of middle. Caudal femur beneath with one large tooth followed by twelve smaller ones decreasing in size distad, 12 minute. Parapsidal furrows absent. Postscutellum terminating in a bidentate plate, the tip of the ovipositor just reaching it.

Black, subviolaceous, marked with conspicuous bright red as follows: Scape, pedicel except above, base narrowly of funicle 1; a transverse line across cephalic pronotum dilating on propleurum triangularly (the obtuse apex of the triangle dorsad) and at middle with a wider than long, inverted, wedge-shaped figure against it; the caudal boundary of this figure fades near the scutum and the whole incloses a transverse black mark against the middle of the caudal edge of the transverse stripe; lateral margin of scutum except at each end and an elliptical spot in centre of scutum near the meson; whole of scutellum and postscutellum; an oblique stripe across metapleurum; a large triangular area on each side of meson of segment 2 of abdomen filling nearly the entire space, a rather broad encircling (except venter) band around cephalic third of segment 5 of abdomen and a stripe across each side of apex of abdomen, joined across the convex apex; cephalic legs except coxa, proximal two thirds of femur and lateral aspect of tibia; tips of middle femora; caudal and middle tibiæ; an elongate marking laterad tip of caudal coxa; tip of caudal femur mesal aspect and all the rest except a large black, subcordate area dorso-proximad and extending from base distad beyond middle, widest distad and there extending half way to caudal margin. Tegulæ and venation brown; both wings embrowned, more deeply so cephalad. Antennæ 14-jointed without a ring-joint; funicle 1 widening distad, subequal to 2 which is a half longer than wide, longest; 3-5 subequal, each a little shorter than 2, 8 very slightly longer than wide; club dark reddish distad, its third joint transverse, 4 small, conical, 1 subquadrate. Face with silvery pubescence, apex of abdomen with reddish fuzz and also much of the rest of the body but the fuzz is shorter.

Nearly entire body finely punctate; most of mesal surface of hind femur glabrous. Meson of segment 2 of abdomen carinated. Scrobes deep, reaching cephalic ocellus. Stigmal vein unequally forked at apex, a little shorter than the marginal, the postmarginal vein elongate, five times the length of the marginal. Caudo-lateral angle of propodeum acute. Fourth or distal joint of maxillary palpus elongate. Incisions between segments 2 and 3 of abdomen deep. Lateral ocellus distant from eyes. Cephalic coxa long but only two thirds the length of cephalic femur.

From one female captured January 28, 1913 (H. Hacker).

Habitat: Brisbane, Queensland.

Type: No. *Hy 3435*, Queensland Museum, Brisbane, the specimen on a pin.

EPEXOCLÆNOIDES new genus.

1. EPEXOCLÆNOIDES BICINCTUS new species. Genotype.

Female:—Length, 9 mm. Differs from the genotype of *Exoclænoides* in having the postscutellum simple, the caudal coxa above without a tooth, the small teeth on the caudal femur ventrad very minute and comblike, numerous; also, the cephalic coxa is a little shorter, the ovipositor much shorter, just reaching the dorsum from around the apex. Dark red, the following parts black: Head, cephalic margin of scutum rather narrowly, cephalo-lateral angle of same subquadrately and mesad of the lemon yellow lateral margin of scutum, a rounded spot on propodeum on each side of meson, lateral margin of propodeum (followed laterad by yellow), segment 4 of abdomen except ventro-laterad and on each side of the yellow band mentioned later, segment 5 of abdomen, valves of ovipositor, mesopleurum (except a rectangular yellow marking mentioned later); cephalic coxæ, proximal third or more of cephalic tibiæ caudad, middle coxæ and center of middle femur caudo-ventrad; mesal face of caudal coxæ, latero-cephalic face of same at base, latero-caudal face of same except at dorsal edge at base and whole of ventral edge, the red widening ventrad; a large subquadrate black area from ventral edge nearly to dorsal or mesal aspect of caudal femur commencing a little out from base and extending two thirds the way to apex; a round spot on lateral aspect of same near dorsal edge just out from base. The following parts lemon yellow: The short, stout scape, cephalic margin of pronotum, a narrow band across pronotum just before its caudal edge and abbreviated laterad, lateral margin of scutum, a longer (ventro-dorsad) than wide area on cephalic mesopleurum, its cephalic margin red, metapleurum except cephalic edge (red) and caudad (black which runs on to the propodeum), caudal margin rather broadly of the scutellum, two distinct encircling bands on abdomen, the first at apex of proximal third (segment 3, all of its dorsal aspect), the second at apex of proximal three fourths (just under apex of ovipositor and at distal fourth of segment 4), both ending ventro-laterad; apex on each side of ovipositor; distal third of cephalic and middle femora caudad, dorsal and cephalic aspects of cephalic tibiæ, cephalic and middle knees, middle tibiæ; all tarsi; extreme dorsal corner of caudal coxa; dorsal aspect of caudal tibia except at base; distal two thirds of caudal femur along dorsal edge rather broadly. Caudal femur with one large tooth followed by many comblike ones. Densely punctate. Face and distal two thirds of abdomen fuzzy, rest of body less distinctly so. Fore wings smoky under distal two thirds of venation and distad to apex, broadly so distad of stigmal vein to and around apex. Also, a rather large, long-triangular (base distad) spot on caudal femur along ventral edge (lateral aspect) just out from base is lemon yellow.

Pedicel short, a little shorter than funicle 1 which is narrower proximad than distad; funicle 2 slightly longer than 1, slightly longer than wide, the following joints gradually, slightly shortening; club 4 very short, 1 large, wider than long.

From one female captured January 15, 1912 (H. Hacker).

Habitat: Brisbane, Queensland.

Type: No. *Hy 3436*, Queensland Museum, Brisbane, the specimen on a pin.

The triangular lemon yellow area on lateral aspect of caudal femur along ventral margin reaches about the midlongitudinal line and its base (distad) or broad end extends not quite to the large tooth of the ventral edge. This tooth, by the way, is only comparatively large as in *Stomatoceras*.

GENUS LEUCOSPIS Fabricius.

1. LEUCOSPIS AUSTRALIS Walker.

Notes on Chalcididæ, part iv, p. 57, male.

"Ein ♂ von Victoria, Melbourne.

Weicht von der Schletterer'schen Beschreibung von *L. australis* Wlk. durch folgendes ab: Körperlänge kaum 8 mm. Alle Flügel sind angeraucht, aber die hinteren allerdings schwächer. Femoren III. unten mitten mit kräftigem Zahn und zwischen diesem und der Spitze mit 8 viel kleineren Zähnen. Der Dornfortsatz des Mittelsegments ist plattenförmig und am Ende breit gerundet und scheint mir daher nicht, in Gestalt eines Hornes die treffende Bezeichnung zu sein.

Die ganze Unterseite des Fühlerschaftes ist rötlich. Das ganze Gesicht schwach rötlich-kupferfarbig schimmernd. Die Hinterhälfte des Abdomen ist unten und an der äussersten Spitze schwarz und diese schwarze Färbung erweitert sich kurz vor der Spitze zahnförmig nach oben, bei weitem ohne die Mitte der Seiten zu erreichen.—Dem Schletterer zur Untersuchung vorgelegenen Stücke fehlte der grösste Teil der Fühler: bei meinem Exemplar ist die ganze Geissel schwarz. Die Unterseite des Kopfes zeigt mitten einen kleinen Höcker." Strand, 1911.

2. LEUCOSPIS DARLINGI Westwood.

Leucospis darlingi Westwood, Thesaur. Ent. Oxon., p. 134, ♀.

3. LEUCOSPIS MORAWITZI Schletterer.

Leucospis morawitzi Schletterer, Berl. Ent. Zeitschr., 35, p. 167.

EXPLANATIONS, ACKNOWLEDGMENTS, ADDITIONS AND CONCLUSION.

EXPLANATIONS.

It is essential that it be understood that Ashmead's (1904) Classification of the Chalcid Flies has been used throughout as a working guide; species placed into old genera are to be understood accordingly unless contrary statements are made. A uniform magnification has been used throughout. The work is confined to forms occurring in Australia, including Tasmania and the off-shore islands. Statements made in the various papers of this series must be accepted as final and take precedence over statements of my own occurring elsewhere. The descriptions of new genera are based upon the genotype. Since the first of the papers were published, the name of the township of Nelson near Cairns, Northern Queensland, has been changed to Gordonvale. It is recommended to students of this group, that families, subfamilies and tribes be studied first, species last.*

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* It is intended to add an index and bibliography, with some additions and corrections, in Volume V of these Memoirs.

All of my own descriptions were made from the normal position as described by Comstock and they are from single specimens unless otherwise stated.

Glossarial.—Certain terms need explaining. The term *forest* has been used to designate the major floral grouping of the Australian Continent usually termed *bush* and characterized by the open-spaced arrangement of the trees and much grass; such trees as the various gums and wattles are characteristic. By *jungle* is meant an entirely different flora like that of the forests of the American continents, characterized by density and the presence of much moisture; the various species of fig form examples of this flora. Forest streamlets are usually fringed with jungle and these fringes when broadened form jungle pockets. The chalcidoid fauna of the two flora is quite distinct.

Anatomically, my term *parapsides* means the true *scutum* while my term *scutum* is anatomically the true *præscutum*. My term *propodeum* means the entire dorsal region of the thorax caudad of the mesopostscutellum. In counting the abdominal segments, the first body segment is counted as segment 2. The ovipositor is said to be exserted only when its valves are also. The term *legs* includes the coxæ. By the comparative terms *a little, somewhat* and *distinctly,* I express degrees in the order given. Funicle 1 is *a little* longer than wide when it is just perceptibly so; it is *somewhat* longer than wide when the fact is obvious and it is *distinctly* longer when the obviousness is very patent and distinct. The *lateral carina* on the propodeum is taken to mean a carina between the meson and the spiracle but always nearer the latter than to the meson.

Anomalous Genera.—Attention is especially directed to those genera whose relationships are doubtful. The following should be noted: *Euryischomyia* Girault of the Elasmidæ; *Diparellomyia* and *Hetreulophus* of the Eulophidæ; the gallmaking genera of the Perilampidæ.*

ACKNOWLEDGMENTS.

The individual collector of specimens has been acknowledged throughout. The Directors of the following museums have very kindly loaned collections for study: The Queensland Museum at Brisbane, the National Museum at Melbourne and the South Australian Museum at Adelaide. Mr. A. P. Dodd and myself have made extensive collections for over a period of two and a half years but these were necessarily confined to certain sections of Queensland only; 30,000 or more specimens were obtained, mostly by use of the sweeping net.

To Dr. R. Hamlyn-Harris, who edited the series, I owe very much, more especially for his personal efforts in having Parts VII to XIV printed. My greatest obligations, however, are to my wife, who bore patiently and willingly the drudgery connected with copying out the rough descriptions and arranging them in the form of legible manuscript.

ADDITIONS.

After the manuscripts had been copied out I have been able to add the following species.

Family MYMARIDÆ.

1. GONATOCERUS PACHYSCAPHA new species.

Female:—Length, about 2 mm. Belongs to the *rénani* group.

Jet, the following parts bright golden yellow: The slender bulla of the scape, pronotum, propleurum and proventer excepting a faint central, dusky, longitudinal line on the pleurum, legs except the jet hind tibiæ and last two pairs of coxæ, the dark brown middle tibiæ and three distal joints of hind tarsi; face and margins of eyes all around; also more obscurely,

* Also Cameron's eurytomid genera. Walker's species need careful revision.

the midlongitudinal line of the distinctly compressed sides of the scape and the abdomen at base above narrowly. Scutum with a median groove. Propodeum with a median carina. Pedicel about subequal to the funicle joints except 1 which is abruptly smaller, much wider than long, the others cupshaped. Fore wings broad, their marginal cilia very short, the apex convexly rounded. Hind wings with more than six lines of discal cilia.

From one female caught on grass in forest, September 14, 1914.

Habitat: Capeville (Pentland), Queensland.

Type: No. *Hy 3437*, Queensland Museum, Brisbane, the specimen in alcohol with type *Atoposoma unguttatipes.*

The fore wings are faintly dusky around tip and with a faint rounded spot centrally just proximad of the middle point between apex of blade and apex of venation. Fore wings normally ciliate discally, the marginal cilia distinctly less than a sixth of the greatest wing width.

2. GONATOCERUS IO new species.

Female:—Similar to *renani* but the cephalic coxæ and proximal half of cephalic femur are dusky, the median line and lateral margins of scutum are pale yellow, also the margins of scutellum except at base. Also the margins of the eyes, dorsal half. Otherwise agreeing with the description. Funicle 1 subequal to the small pedicel.

From one female caught in forest, September 22, 1914.

Habitat: Capeville (Pentland), Queensland.

Type: No. *Hy 3438*, Queensland Museum, Brisbane, the specimen in alcohol with type *Atoposoma unguttatipes* Girault.

Family ELASMIDÆ.

1. ELASMUS MARGISCUTELLUM Girault.

Two females captured by sweeping grass in forest at Capeville, Pentland, Queensland, September 15, 1914. The mandibles were not seen.

2. ELASMUS MARGIPOSTSCUTELLUM new species.

Female:—Length, 2.15 mm. Sculpture and pubescence as in other species. Lemon yellow, the abdomen orange yellow, the wings hyaline. Marked with dark metallic green as follows: A large diamond-shaped marking in center of vertex, the acute lateral ends not much separated from the eyes; upper half of occiput except dorso-lateral corners which are continuously yellow with rest of vertex, the dorso-mesal green of occiput narrowly connected with the green area of central vertex; cephalic apex of pronotum rather broadly; a large, round spot, its margins jagged, on cephalic center of scutum reaching over half way to scutellum (and slightly crossing over to the long pronotum); axillæ; scutellum except lateral and caudal margins narrowly; postscutellum except lateral and distal margins; propodeum; a small, acute triangle at meson of base of abdomen and on each side of it, a transverse cuneate marking; three marginal dots on abdomen, the first smallest and at a little distad of apex of proximal third; immediate tip of abdomen and of ovipositor valves; a broad stripe across abdomen just separated from tip; a large rather irregular spot on mesopleurum just ventrad of tegula; dorsal edge of hind coxa except a short distance at base. Funicle joints a little longer than wide, 1 a little the longest. Flagellum black. First two marginal spots of abdomen closer to each other than to the third.

From one female captured on grass in forest, September 15, 1914.

Habitat: Capeville (Pentland), Queensland.

Type: No. *Hy 3439*, Queensland Museum, Brisbane, the specimen in alcohol with type *Atoposoma unguttatipes.*

3. ELASMUS PULCHER new species.

Female:—Length, 1.78 mm.

Agrees with *doddi* but the tip of abdomen is broadly black (distal sixth), the postscutellum is wholly yellow, the lateral and caudal margins of scutellum are broadly yellow except at immediate apex. Upper half of occiput black except dorso-laterad as in *formosus.* Funicle 1 barely longer than wide. The three spots at base of abdomen very distinct, the marginal ones transverse. Distal black of abdomen dorsad acute at meson of cephalic margin. Abdomen with faint indications of cross-stripes. Mandibles not seen.

From one female caught in forest, September 14, 1914.

Habitat: Capeville (Pentland), Queensland.

Type: No. *Hy 3440,* Queensland Musesum, Brisbane, the female in alcohol with type of *Atoposoma unguttatipes.*

Family EULOPHIDÆ.

1. GYROLASELLA MIRILINEATA new species.

Female:—Length, 1.30 mm. Pronotum conico-triangular but shorter than with *Atoposoma.*

Golden yellow, the wings hyaline, the following remarkable dark metallic green markings: Dorsal edge of scape, pedicel dorsad except at apex; a spot cephalad and caudad of each lateral ocellus; an abbreviated line transversely from center of occiput; a narrow line down lateral aspect of pronotum nearly joining the furrows and a small triangular spot at cephalic margin of scutum half way to lateral margin from meson and apparently forming a semicircular loop across pronotum, the loop part faint as if black showing through parchment; the parapsidal furrows over half way to scutellum, the green narrowing caudad; a very narrow, elongate, linear spot from cephalic apex of each axilla and extending a little over half way to caudal end; cephalic margin of scutellum narrowly, the line not complete but laterad turned abruptly, cleanly caudad for some little distance and slightly so at meson; cephalic margin and median line of propodeum narrowly, the line of cephalic margin with a triangular spot against it not far from meson, from thence laterad thickened; and seven narrow cross-stripes on abdomen, the first represented by a pair of transverse marginal dots; the second connected along meson with a minute black patch at immediate base; 3-5 connected narrowly along the meson; 2-4 each with a transverse marginal dot just opposite each end, hence shorter than 5; 7 smallest, thinnest, just before apex, interrupted at meson; 6 triangularly convexed cephalad, its sides oblique and the ends obliquely truncated or footlike; 3 a little concave. Tip of ovipositor valves black. Funicle 1 somewhat longer than wide.

From one female caught in forest, September 9, 1914.

Habitat: Capeville (Pentland), Queensland.

Type: No. *Hy 3441* Queensland Museum, Brisbane, the specimen in alcohol with type of *trilongilineata.*

2. GYROLASELLA PAX new species.

Female:—Length, about 1.25 mm.

Similar to *festiva* but differing as follows: The narrow line of green across vertex in front of cephalic ocellus is continued ventrad half way down the eyes; cephalic margin of scutum is rather broadly green; inner margins of parapsides not green (the narrow line down center of each axilla nearly reaches to caudal end); the median line of scutellum the same; the stripe across cephalic margin of propodeum is interrupted at the meson; on the abdomen there are three marginal dots, one dot just caudad of the ends of each of the first three stripes.

The first three stripes of abdomen are gently, concavely curved. Scape unmarked. Parapsidal furrows metallic green. Otherwise the same. Mandibles not seen. A caret-shaped marking on each side of meson of upper occiput and a dot caudad of each lateral ocellus.

From one female caught in forest, September 10, 1914.

Habitat: Capeville (Pentland), Queensland.

Type: No. *Hy 3442*, Queensland Museum, Brisbane, the specimen in alcohol with type of *trilongilineata*.

3. GYROLASELLA MIRIGUTTATA new species.

Female:—Length, 1.05 mm. Pronotum longer than usual.

Golden yellow, the wings hyaline. Marked with narrow lines of metallic green as follows: Upper edge of scape just before tip, dorsal pedicel, a minute dot before and behind each lateral ocellus, a narrow line down dorso-lateral aspect of pronotum, a transverse dash at cephalic margin of scutum on each side of meson, each not quite reaching lateral end; parapsidal furrows very narrowly except at caudal end; cephalic margin of scutellum narrowly except at each side, the green slightly widening on each side; a minute, transverse dash on propodeum at cephalic margin each side of meson and a smaller one cephalo-laterad; a minute dot center of base of abdomen; four transverse marginal spots on abdomen (a total of 8), a minute first at immediate base not counted, the last two largest and nearly opposite them but a little cephalad a narrow abbreviated cross-stripe (a total of two cross-stripes at about middle); also caudad of the last transverse marginal spot, two pairs of round dot-spots but each farther mesad (thus from dorsal aspect, the total of four arranged in a square on distal third of the abdomen). Immediate tip of valves of ovipositor black. Venation yellow. Funicle 1 slightly longer than wide.

From one female caught September 9, 1914 in forest.

Habitat: Capeville (Pentland), Queensland.

Type: No. *Hy 3443*, Queensland Museum, Brisbane, the specimen in alcohol with type *trilongilineata*.

4. GYROLASELLA ÆNEIPROPODEUM new species.

Female:—Length, 1.15 mm.

Bright golden yellow, the following parts dark metallic green, the wings hyaline: Pronotum, ocellar spots, a line down face along the eyes and broken into three parts, scutum except lateral margin moderately broadly, the apex of the green ending obtusely at scutellum (the whole shaped like a nipple, the lateral margin of the green with an obtuse projection at proximal third); scutellum except lateral and distal margins; propodeum; parapsides; a large, bullet-shaped spot centrally from cephalic apex of each axilla; a diamond-shaped spot just cephalad of propodeum opposite the spiracle and another at the tegula; a marginal dot at proximal fifth on abdomen followed by three cross-stripes, the third a little distad of middle, the three suffusedly joined broadly along the meson, the black suffusion extending to base. A fourth abbreviated stripe across abdomen a little distad of a point between stripe 3 and apex; this fourth stripe is a little convex and has a triangular projection on each side of its caudal edge just before the end. Green of scutellum elliptical oval. Funicle joints a little wider than long.

From two females, reared from cecidomyiid galls on *Eucalyptus*, August 15, 1914 and labelled "Hy 642. From gall No. 11." Donated by Henry Tryon.

Habitat: Mt. Cootha (Brisbane), Queensland.

Type: No. *Hy 3444*, Queensland Museum, Brisbane, two specimens on a slide.

5. GYROLASELLA TRILONGILINEATA new species.

Female:—Length, 1.15 mm.

Characterized by bearing three longitudinal metallic green lines on the scutum including a narrow median stripe which is complete and extends from pronotum to apex of scutellum; the other stripes, one on each side of meson are a little obliqued, a little thicker than the median stripe and incomplete (more so cephalad; from about cephalic fifth nearly to caudal margin). Bright golden yellow, the wings hyaline. Besides the lines on scutum, marked with dark metallic green as follows: A caret-shaped marking on vertex, cephalo-laterad of lateral ocellus; another caudo-laterad of same but shorter and crescentic; a dot on extreme latero-caudal angle of the transverse pronotum; cephalic margin of scutum narrowly except laterad; a bullet-shaped spot at center of cephalic margin of each axilla; a stripe across cephalic margin of propodeum, prolonged caudad down the meson; five dusky cross-stripes on abdomen, the first a short distance out from base, the fifth thin, much abbreviated laterad, some little distance before apex; stripes 2 and 3 connected along the meson, also 4 and 5 more narrowly; 1-3 rather stout and equal, more or less curved, laterad turned slightly at ends, 4 thinner; a marginal dot opposite ends of stripes 1 and 4 (that opposite the latter obscure); a marginal, transverse dash at each end of stripes 2 and 3. A quadrate spot at center of immediate base of abdomen, proximad of and against the first cross-stripe, the third cross-stripe bow-shaped.

Described from one female captured by sweeping in forest, September 7, 1914.

Habitat: Capeville (Pentland), Queensland.

Type: No. *Hy 3445,* Queensland Museum, Brisbane, the female in alcohol with type *Atoposoma unguttatipes.*

GENUS ATOPOSOMA Masi.

1. ATOPOSOMA UNGUTTATIPES new species.

Female:—Length, 1.20 mm.

Pale golden yellow, the wings hyaline excepting a sooty spot down the stigmal vein. The following parts deep orange yellow: Occipital aspect of vertex, scutum, axillæ and scutellum. The following lustrous black markings: A lateral and median line down pronotum, the median wider; cephalic margin of scutum except at extreme lateral end, the black widening laterad; median line of scutum except cephalad; parapsidal furrows and grooves of scutellum very narrowly; median line of scutelleum except at each end, the line broadening toward the middle from each end but not greatly; median line of postscutellum; propodeum except about lateral third on each side and a spot against each side of postscutellum; a minute, inverted exclamation-point-like spot at cephalic end of each axilla; and dorsal abdomen except the following peculiar pale golden yellow markings—On a little over proximal half, a line of four confluent, transverse marginal spots, the fourth distinctly wider, forming a rather broadly (at meson) interrupted cross-stripe; a minute, speck-like dot at meson between the second pair of marginal spots; a small, quadrate marginal spot following the fourth transverse spot and cephalad connected by a very thin cross-stripe; distad of this another little larger marginal spot followed just before tip by a very narrow marginal dot; also four dots in a square, the distal two larger, the first pair just distad of the narrow cross-stripe, one on each side of meson; the second pair is between the second pair of marginal spots following the fourth pair of transverse spots. Dorsal extreme apex of abdomen pale yellow. Upper occiput with a V-shaped central black marking. Hind tibiæ with a longer than wide dot on each side just before tip. A dusky stripe down face along the eyes and a short one from ventral apex of eye across cheeks. Various black markings on thoracic venter.

Described from one female captured by sweeping in forest, September 5, 1914.

Habitat: Capeville (Pentland), Queensland.

Type: No. *Hy 3446,* Queeensland Museum, Brisbane, the female in alcohol.

2. ATOPOSOMA ATOPOSOMOIDES new species.

Female:—Length, 1.20 mm.

Honey yellow, the fore wings with a small, dusky substigmal spot. The following metallic green markings: Three cross-stripes on face, the dorsal two broken, the ventral one complete, passing under the eyes over to the occiput and along the latero-occipital margin of eye for over half way then looping around to ventral apex of occiput; a reciprocal loop on each side of meson of occiput, dorsal half; ocellar area (connected narrowly with the eyes along its cephalic margin); dorsal edge of scape except at each end; dorsal pedicel except at tip; a median and dorso-lateral line down pronotum, the median stripe thickened, cuneate, the others narrow; scutum except lateral margins which are convex yellow lines; parapsides; a narrow line down propleurum and down mesopleurum from pronotum to about fore wings; scutellum between the grooves; propodeum; a bullet-shaped marking from cephalic end of each axilla centrally; disk of the postscutellum; side of cephalic coxæ at base; most of caudal coxæ; tip of ovipositor and a minute dot at apex of abdomen dorsad; six cross-stripes on abdomen, the first three about in the middle of proximal half, joined along the meson, the third stoutest, the first joined along the meson to base of abdomen, each curved a little on each side; stripes 4 and 5 at about proximal two thirds, 5 joined along the meson to 4 and to 6, the latter a little before tip; these stripes block out five (a total of 10) transverse marginal spots of yellow of which the first four are along the proximal half, the first and fourth large, ovate, 2 and 3 very much smaller, 5 subequal to 4 and just proximad of stripe 6. Middle of hind femur dusky black; a narrow, dusky band a short distance ventrad of caudal knees and a less distinct one before tip; middle femur and the middle tibia just below knee, faintly dusky; distal tarsal joints jet.

Habitat: Capeville (Pentland), Queensland. Forest, September 29, 1914.

Type: No. *Hy 3447*, Queensland Museum, Brisbane, the female in alcohol with type *unguttatipes*.

Genus GROTIUSELLA Girault.

1. GROTIUSELLA MULTIGUTTATA new species.

Female:—Length, 1.20 mm.

Dark metallic blue-green, the wings hyaline (stigmal knob black), the legs (except most of each coxa, caudal femora and caudal tibiæ, the latter two dusky) and head pale yellow. Ocellar area, a line of three spots down the face along the eyes and a cross-stripe on face below the antennæ and ending at ventral end of eyes, dark metallic blue. The following pale golden yellow body markings: On abdomen along *each* margin from base (dorso-laterad), five pairs of dots (a total of ten on *each* margin), the first pair smallest, the mesal of the last two pairs abruptly larger, transverse spots; caudad of these pairs, a round spot (between the last pair and apex) in a line longitudinally with the mesal ones of the pairs; caudal margin of pronotum broadly, parapsidal furrows (a complete yellow line along their positions but broken near cephalic end), lateral and cephalic margins of scutellum and lateral margins of postscutellum. Scape white, broadly black at tip; rest of antenna black. Occiput metallic. The mesal of the fourth pairs of marginal dots of abdomen is much wider than long and the two (each side's) are barely separated at the meson; those of the fifth pairs are distinctly, more widely separated. A small yellow spot on propleurum. Funicle 1 largest, slightly longer than wide. The distal two dots on abdomen are round, one on each side of meson.

Habitat: Capeville (Pentland), Queensland. Forest, September 8, 1914.

Type: No. *Hy 3448*, Queensland Museum, Brisbane, the female in alcohol with type *Atoposoma unguttatipes*.

Genus EUPLECTRUS Westwood.

1. EUPLECTRUS IMMARGIVENTRIS new species.

Female:—Length, 2.65 mm.

Black, the antennæ, legs and abdomen pale yellow; the pedicel, distal third or more of abdomen and hind coxæ orange yellow; abdominal petiole quadrate, black; a narrow marginal stripe at about proximal one seventh and around or across base of abdomen dorsad; two distinct black stripes across abdomen at about base of distal third, both rather broad and side by side. Fore wings with a distinct fuscous, round spot appended from apex of stigmal knob. Marginal black at base of abdomen about as long as the petiole. Scutum scabrous; axillæ and scutellum reticulated. Funicle 1 a little longer than the pedicel. Parapsides smoother caudo-mesad. Oral area and tegulæ white. Head and pronotum practically smooth. Otherwise like the other Australian species.

Habitat: Capeville (Pentland), Queensland. Forest, September 12, 1914. Two females.

Type: No. *Hy 3449*, Queensland Museum, Brisbane, a female in alcohol with type *Atoposoma unguttatipes.*

CONCLUSION.

"Obscurity, indeed, is painful to the mind as well as to the eye; but to bring light from obscurity, by whatever labour, must needs be delightful and rejoicing." (David Hume.) I have aimed at the light.*

* No doubt I have committed mistakes, however. Indulgence for these is not sought because I know that mistakes are inevitable. To indulge them is to increase them. In themselves they are excusable but it is inexcusable not to use every effort and resource to prevent, discover and correct them. Rather than indulgence for them, then, I seek criticism of them.

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